Business Ethics in Moderating the Relationship Between Sustainability Governance and Digital Transformation on Firm Performance

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ABSTRACT

In the face of escalating global and domestic challenges, sustainability governance has emerged as a critical corporate priority, reflecting the growing demand for organizations to align profitability with environmental responsibility, social accountability, and ethical integrity. This study examines and analyzes the influence of sustainability governance and digital transformation on firm performance, with business ethics as a moderating variable. The sample in this study consists of 156 companies from the basic materials, consumer non-cyclicals, consumer cyclicals, energy, and industrials sectors listed on the Indonesia Stock Exchange during the 2022–2023 period, resulting in 312 observations. This research employs a quantitative approach using panel data regression methods. The findings of this study reveal that the integration of sustainable governance introduced as a novel aspect of this research significantly contributes to improving firm performance. In contrast, digital transformation was found to have no positive impact on firm performance. Furthermore, business ethics is able to strengthen the relationship between sustainability governance and digital transformation on firm performance. This research contributes to the development of stakeholder and agency theories, as well as practical implications for regulators, companies, and society in integrating sustainability and digitalization into corporate governance frameworks.

***Keywords**: Business Ethics, Corporate Governance, Digital Transformation, Firm Performance, Sustainability Governance.*

ABSTRAK

Di tengah meningkatnya tantangan global dan domestik, tata kelola keberlanjutan (sustainability governance) telah muncul sebagai prioritas penting bagi perusahaan, mencerminkan meningkatnya tuntutan agar organisasi mampu menyeimbangkan profitabilitas dengan tanggung jawab lingkungan, akuntabilitas sosial, dan integritas etika. Penelitian ini mengkaji dan menganalisis pengaruh tata kelola keberlanjutan dan transformasi digital terhadap kinerja perusahaan, dengan etika bisnis sebagai variabel moderasi. Sampel dalam penelitian ini terdiri dari 156 perusahaan dari sektor bahan baku dasar, konsumen non-siklis, konsumen siklikal, energi, dan industri yang terdaftar di Bursa Efek Indonesia selama periode 2022–2023, menghasilkan 312 observasi. Penelitian ini menggunakan pendekatan kuantitatif menggunakan metode regresi data panel. Temuan penelitian ini menunjukkan bahwa integrasi tata kelola berkelanjutan yang diperkenalkan sebagai aspek baru dalam penelitian ini berkontribusi signifikan terhadap peningkatan kinerja perusahaan. Sebaliknya, transformasi digital tidak ditemukan memiliki dampak positif terhadap kinerja perusahaan. Lebih lanjut, etika bisnis mampu memperkuat

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hubungan antara tata kelola keberlanjutan dan transformasi digital terhadap kinerja perusahaan. Penelitian ini berkontribusi pada pengembangan teori pemangku kepentingan dan keagenan, serta implikasi praktis bagi regulator, perusahaan, dan masyarakat dalam mengintegrasikan keberlanjutan dan digitalisasi ke dalam kerangka tata kelola perusahaan.

***Kata kunci**: Etika Bisnis, Tata Kelola Perusahaan, Transformasi Digital, Kinerja Perusahaan, Tata Kelola Keberlanjutan.*

INTRODUCTION

In recent years, global attention to sustainability governance has intensified as companies face growing pressure from investors, regulators, and the public to align their operations with Environmental, Social, and Governance (ESG) principles. Despite this increasing emphasis, many organizations continue to prioritize short-term financial goals over broader environmental and social responsibilities (Zarefar & Zarefar, 2023). This imbalance reflects a persistent weakness in current corporate governance frameworks, which remain insufficient in integrating sustainability and resilience into their structures. Companies that fail to adopt such governance models risk losing investor confidence and compromising their long-term performance. Despite increasing regulatory pressure and global emphasis on ESG principles, many companies still exhibit weak sustainability governance practices, as existing corporate governance frameworks tend to prioritize short-term financial performance while failing to integrate sustainability, digital transformation, and ethical accountability into firm performance.

The urgency to strengthen sustainability governance is evident in several governance and environmental failures in Indonesia. The Ministry of Energy and Mineral Resources (ESDM) reported that in 2018, ten energy companies produced 30,967.51 tons of hazardous and toxic waste (B3 waste). Similarly, an official report from Bekasi Regency in 2022 revealed that PT Kimu Sukses Abadi violated environmental regulations due to the absence of environmental management documents, community approval, and B3 waste storage facilities. In the financial domain, governance deficiencies have also disrupted corporate continuity. For example, PT Wijaya Karya Tbk. (WIKA) postponed the repayment of its sustainable sukuk *mudharabah* in 2023, as reported by *cnnindonesia.com* and the Indonesia Stock Exchange, indicating weaknesses in its sustainability governance and investor accountability.

From a regulatory and theoretical standpoint, Indonesia has taken steps to institutionalize sustainability governance through the Financial Services Authority Regulation Number 51/POJK.03/2017 on the application of sustainable finance for financial services institutions, issuers, and public companies. However, its implementation still primarily focuses on sustainable finance rather than comprehensive sustainability governance with measurable environmental and social outcomes. Historically, the Asian financial crisis of 1997 exposed significant weaknesses in corporate governance across Southeast Asia, prompting extensive reform initiatives (Ramachandran et al., 2020). In response, ASEAN countries developed the ASEAN Corporate Governance Scorecard (ACGS) to evaluate corporate governance and sustainability-based performance. Nevertheless, the adoption of the ACGS in Indonesia remains limited, with most companies continuing to rely on traditional frameworks (Yin & Sheng, 2019; Chien, 2023; Jatana, 2023).

The concept of corporate governance has evolved into sustainability governance, emphasizing long-term social, environmental, and ethical accountability (Ma et al., 2022; Hristov et al., 2022; Neves et al., 2023). However, existing models such as that of Ledi and Ameza (2023), which include only three dimensions: board structure, ownership, and ethics, remain limited to operational and compliance aspects, overlooking sustainability and digital transformation. This highlights a research gap in developing a more comprehensive, sustainability- and technology-oriented governance model. At the same time, IT governance has become vital for organizational resilience, as weak IT systems

hinder adaptability and productivity, particularly during global crises like COVID-19 (Luthfia et al., 2022). While prior studies by Hba and Manouar (2018), Almaqtari et al. (2023), and Masibigiri et al. (2024) have linked IT governance to firm performance, none have developed an integrated framework that aligns it with corporate sustainability, despite the transformative role of digital technologies (Vial, 2019).

Business ethics also play a moderating role by ensuring that governance practices align with legal and moral principles, fostering fair competition and accountability. Rudi and Mukhlis (2023) emphasize that ethics strengthen sustainable governance and public trust. To address these gaps, this study expands the sustainability governance framework of Ledi an Ameza (2023) from three to six dimensions by adding, POJK Regulation Number 51 of 2017–based sustainability governance (six indicators), Sustainability and Resilience aligned with ACGS 2023 (nineteen indicators), and IT Governance (thirteen indicators), including new measures such as IT training and social media use.

This study's originality lies in integrating sustainability, resilience, and technology into the corporate governance framework. By addressing the limitations of prior models, it contributes to both theory and practice, offering a more holistic and contextually relevant measurement for corporate sustainability governance. This study aims to examine the influence of sustainability governance and digital transformation on firm performance, with business ethics as a moderating variable. The findings are expected to provide valuable insights for regulators, investors, and organizations in promoting sustainable, resilient, and ethically grounded business practices in Indonesia.

LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

Sustainable Governance and Firm Performance

Firm performance represents a comprehensive reflection of a company's condition and achievements within a particular period. It captures how effectively an organization conducts its operational activities and utilizes available resources to generate outcomes and value (Hummel et al., 2019; Darmayani & Putri, 2025). Traditionally, governance practices have largely emphasized shareholder-oriented objectives, focusing on profit maximization and firm value enhancement. However, this perspective has gradually shifted as corporate governance has evolved toward sustainability governance, reflecting a growing awareness of corporate responsibilities that extend beyond financial performance to include social and environmental dimensions (Garas & ElMassah, 2018; Ma et al., 2022; Chopra et al., 2024).

Sustainability governance requires organizations to integrate environmental, social, and ethical considerations into strategic and operational decision-making processes in order to balance economic goals with broader accountability. Empirical evidence supports this evolution, as Wahyudin et al. (2022) demonstrate that strong adherence to good governance principles promotes efficiency, transparency, accountability, and long-term sustainability, which in turn improves firm performance. Moreover, effective governance not only enhances operational and financial outcomes but also strengthens corporate reputation and public trust, enabling firms to attract investors, customers, and strategic partners that contribute to sustained growth and long-term profitability (Nair & Bhattacharyya, 2019; Naeem et al., 2022).

H1: Sustainable governance has a significant effect on firm performance.

Digital Transformation and Firm Performance

Digital transformation refers to the strategic utilization of advanced digital technologies including data analytics, mobile computing, social media platforms, and smart devices to drive substantial changes in business operations and value creation. In addition to adopting new technologies, digital transformation also involves enhancing and optimizing existing systems, such as Enterprise Resource Planning (ERP), to ensure they function more effectively in supporting organizational strategies and decision-making processes (Zhang et al., 2024). This perspective highlights that digital

transformation is not a purely technological initiative, but rather a comprehensive organizational effort.

Extending this view, Wang et al. (2020) emphasize that digital transformation entails fundamental shifts in business strategies, organizational structures, operating models, and internal processes, enabling firms to respond proactively to opportunities and challenges within the digital economy. A growing body of empirical research consistently demonstrates the positive contribution of digital transformation to firm performance. For example, Zhang et al. (2023) show that digital transformation significantly strengthens firm performance, particularly in environments characterized by high uncertainty. Similarly, Guo and Xu report that digital adoption enhances both short-term and long-term organizational outcomes. In the short run, digital initiatives improve operational efficiency, reduce costs, and streamline business processes, while in the long term, they stimulate innovation, support market expansion, and reinforce firms' competitive advantage (Agustian et al., 2023).

H2: Digital transformation has a significant effect on firm performance.

Sustainable Governance on Firm Performance Moderated by Business Ethics

Business ethics serve as a fundamental guideline for organizations in differentiating between acceptable and unacceptable conduct, as well as in making decisions that not only comply with legal requirements but also take into account their broader consequences for stakeholders, including consumers, employees, society, and the environment (Waweru, 2020). In practice, ethical disclosure and transparency continue to pose significant challenges for management, which holds a moral responsibility to present company conditions accurately and honestly to stakeholders. When information is disclosed truthfully and responsibly, ethical concerns tend to be minimized; however, when disclosure affects decisions that may advantage or disadvantage certain parties, it becomes a critical ethical issue. Numerous studies confirm that business ethics have a direct and meaningful influence on firm performance (Ogbari et al., 2016; Ahmed et al., 2023).

Organizations that consistently uphold strong ethical standards are more likely to develop a positive corporate reputation and gain trust from customers, business partners, and the wider community (Saha et al., 2020). Supporting this view, Siswati and Pudjowati (2023) demonstrate that the application of business ethics within corporate management plays a crucial role in enhancing organizational performance. When companies operate based on ethical principles such as honesty, fairness, responsibility, and mutual respect, they foster a positive and harmonious working environment. This ethical climate not only strengthens internal relationships but also directly contributes to the optimization and sustainability of firm performance.

H3: Sustainable governance has a significant effect on firm performance, moderated by business ethics.

Digital Transformation on Firm Performance Moderated by Business Ethics

In the digital transformation context, business ethics functions as a critical moderating mechanism that determines how technological advancement ultimately affects firm performance. Floridi (2018) emphasizes that organizations that prioritize moral principles and responsibility in the use of technology are better equipped to shape the direction, speed, and overall quality of their digital transformation initiatives. Ethical considerations ensure that technology adoption is not driven solely by efficiency or cost reduction, but is also aligned with accountability, fairness, and long-term organizational sustainability.

Similarly, Xu et al. (2024) demonstrate that business ethics significantly influence the outcomes of digital transformation, particularly in terms of transparency, data security, and responsible innovation. Their findings suggest that firms with strong ethical standards are more likely to implement digital technologies in a transparent manner, protect

customer and stakeholder data effectively, and avoid manipulative or misleading information practices. Such ethical behavior strengthens stakeholder trust and reduces digital-related risks, thereby reinforcing the positive relationship between digital transformation and firm performance.

H4: Digital transformation has a significant effect on firm performance, moderated by business ethics.

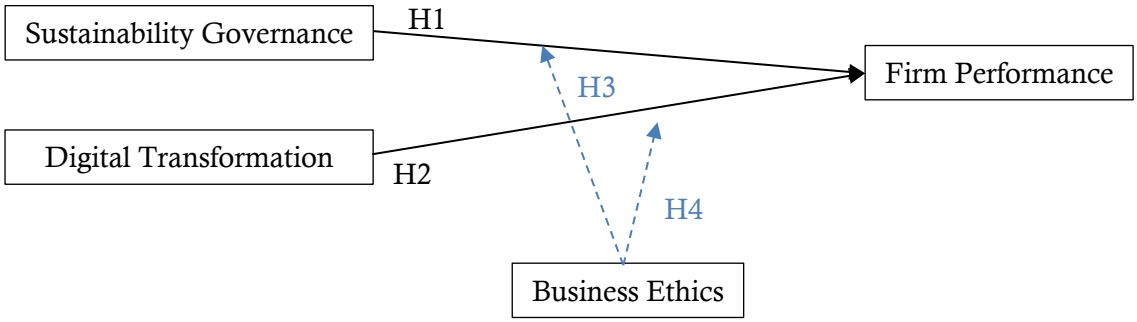

Figure 1. Research Framework

Based on Figure 1, the research framework is designed to examine how sustainability governance and digital transformation influence firm performance, both directly and through the moderating role of business ethics. In this model, sustainability governance (H1) and digital transformation (H2) are proposed as key determinants that enhance firm performance by promoting responsible management practices and operational efficiency. Business ethics serves as a moderating variable in two relationships: it is expected to strengthen the impact of sustainability governance on firm performance (H3) and to reinforce the positive effect of digital transformation on firm performance (H4). This framework reflects the interaction between governance quality, technological advancement, and ethical conduct, emphasizing that ethical practices are essential in ensuring that sustainability and digital initiatives translate into improved corporate outcomes.

RESEARCH METHODS

This study employs a quantitative approach to examine the effect of sustainability governance and digital transformation on firm performance, moderated by business ethics. This research employs content analysis to assess the variables of Sustainability Governance, Digital Transformation, Business Ethics, and Firm Performance by scoring indicators using a 0–3 scale. This scale is designed to provide deeper insights into report quality, rather than merely counting text elements. The analysis process involves several steps. First, indicators were developed based on relevant literature and guidelines for environmental and social sustainability practices. Second, the content of annual reports and sustainability reports from 2022–2023 was analyzed, with each indicator being scored according to the level of implementation disclosed in the reports.

The data sources for this study include annual reports, sustainability reports, and company websites. The type of data used in this research is secondary data. The sampling technique in this study involved three stages, the first stage used purposive sampling, the second stage employed probability sampling, the third stage utilized proportionate stratified random sampling, and the fourth stage used systematic random sampling. With this approach, the total sample to be analyzed is 156 companies for a 2-year period, resulting in a total of 312 research observations.

The data analysis technique in this study utilizes descriptive statistics, classical assumption tests, and panel data regression using STATA. In this research, the panel data regression method was chosen to test the research hypotheses, involving three specific

tests: the Chow Test, the Hausman Test, and the Lagrange Multiplier Test. These tests were employed in this study to select the appropriate model or estimation method for testing the regression equations to be estimated.

Hypothesis testing in this study involves three tests, the main model test, the sensitivity model test, and the expansion model test. Explicitly, the main model test is formulated using the following regression equation:

$$KP = \alpha + \beta_1 TKK + \beta_2 TD + \beta_3 TKK \times \beta EB_1 + \beta_4 TD \times \beta EB_2 + e$$

H_1 if $\beta_1 > 0$
H_2 if $\beta_2 > 0$

Explanation:

α	: alpha
KP	: Firm Performance
TKK	: Sustainability Governance
TD	: Digital Transformation
EB	: Business Ethics
e	: Error residual

The second test uses the sensitivity model test. The sensitivity model test is used to predict the results of decisions in research with specific variables. The sensitivity test in this study still refers to the main model regression equation, where the measurement of Sustainability Governance in this test uses the initial measurement, or before any adjustments.

The third test uses the expansion model test. The expansion model test is a process aimed at assessing and developing an idea or innovation, particularly in the field of corporate governance, with the goal of ensuring that the innovation can be implemented more broadly and deliver significant positive impacts. In the context of sustainability governance, this expansion test is divided into six main dimensions. The expansion test is explicitly formulated using the following regression equation:

$$KPit = \alpha + \beta_1 SKD + \beta_2 SK + \beta_3 EK + \beta_4 POJK + \beta_5 KK + \beta_6 ITG + e$$

Explanation:

α	: alpha
KP	: Firm Performance
SKD	: Board Structure and Composition
SK	: Ownership Structure
EK	: Ethics and Compliance
POJK	: OJK Regulation 51
KK	: Sustainability and Resilience
ITG	: IT Governance
βBED	: Business Ethics
e	: Error residual

RESULTS

The results of the descriptive statistical analysis presented in Table 1 show that the sustainability governance of companies in this study has a minimum value of 1.021 and a maximum value of 2.652, with an average value of 1.687. This indicates that the level of Sustainability Governance implementation among the observed companies ranges from moderate to high. This means that most companies have begun to implement sustainability governance practices in their operations. The average value of 0.819 for digital transformation reflects that, in general, the level of digital transformation adoption is still at a low to moderate level. This suggests that the companies under study have not

yet fully implemented digital transformation optimally. This score falls within the low to moderate range, meaning that most companies are still in the early stages of digital technology adoption or have only implemented certain aspects of digitalization. Firm performance in this study shows an average value of 1.775, which reflects that, generally, the observed companies have performed quite well.

This value indicates that the majority of companies were able to demonstrate positive performance results during the observation period. The average value of business ethics at 2.058 indicates that, in general, the companies in the sample have shown reasonably good concern for the application of ethical principles in their operational activities. This figure reflects that ethical aspects have become an important part of decision-making and the execution of business activities

Table 1. Descriptive Statistic Analysis

Variable	Minimum	Maximum	Mean	Std. Deviation
Sustainability Governance	1.021	2.652	1.687	0.217
Digital Transformation	0.000	1.688	0.819	0.514
Firm Performance	0.875	2.750	1.775	0.303
Business Ethics	0.916	2.833	2.058	0.427
Total Observation		312		

To ensure that the results of the content analysis genuinely measure report quality, hypothesis testing was conducted using three testing models: the main model test, the sensitivity model test, and the expansion model test. These three models were tested using panel data regression analysis. In panel data, which is a combination of time series and cross-section, the estimation assumes a Best Linear Unbiased Estimator (BLUE) approach. There are three methods for estimating panel data models: fixed effect model, random effect model, and common effect model.

Table 2. Main Model Test

Variable	Prediction	Coefficient	P-value	Decision
Constant		9.4075	0.092	
Sustainability Governance	+	1.8052	0.000***	H1 accepted
Digital Transformation	+	0.0108	0.821	H2 rejected
Business Ethics x Sustainability Governance	+	0.2444	0.004***	H3 accepted
Business Ethics x Digital Transformation	+	0.0405	0.041**	H4 accepted
R^2	0.972			
Adj-R^2	0.942			
F-Statistic	32.71			
Prob(F-Statistic)	0.000			
Effect	Fixed Effect			
Observation	312			

Based on the panel data tests in Table 2, it is concluded that the Fixed Effect Model is more appropriate compared to the Common Effect Model or Random Effect Model. The results of the main model test in Table 2 show that this research model has a coefficient of determination (R^2) of 0.972 and an Adjusted R^2 of 0.942, meaning that the independent variables accurately explain 94.2% of the variation in firm performance. The high Adjusted R^2 value indicates the model's strong explanatory power and its ability to capture unobserved individual effects across entities. The F-statistic value of 32.71 with a Prob (F-statistic) of 0.000 < 0.05 further confirms that, simultaneously, sustainability governance, digital transformation, business ethics, and their interaction terms significantly affect firm performance.

The results of hypothesis 1 testing show that sustainability governance has a positive and significant effect on firm performance, with a coefficient value of 1.8052 and a p-value < 0.05. The results of hypothesis 2 testing reveal that digital transformation has a coefficient value of 0.0108 and a p-value of 0.821, indicating that its direct effect on firm performance is statistically insignificant. For hypothesis 3, business ethics significantly

strengthen the relationship between sustainability governance and firm performance, with a coefficient value of 0.2444 and a p-value < 0.05. Lastly, hypothesis 4 testing results show that although digital transformation does not have a significant direct effect, business ethics positively moderate the relationship between digital transformation and firm performance, with a coefficient value of 0.0405 and a p-value < 0.05.

Next, the results of the sensitivity model test in this study aim to analyze the influence of the main independent variables, consisting of sustainability governance and digital transformation, on firm performance. This model's test excludes three new dimensions from the sustainability governance variable in the main model and tests its three original dimensions.

Table 3. Sensitivity Model Test

Variable	Prediction	Coefficient	P-value	Decision
Constant		3.4837	0.578	
Sustainability Governance	+	1.6372	0.000***	H1 accepted
Digital Transformation	+	0.0998	0.042**	H2 accepted
Business Ethics x Sustainability Governance	+	0.7179	0.000***	H3 accepted
Business Ethics x Digital Transformation	+	0.0782	0.000***	H4 accepted
R^2	0.964			
Adj-R^2	0.925			
F-Statistic	24.88			
Prob(F-Statistic)	0.000			
Effect	Fixed Effect			
Observation	312			

The results from the sensitivity model test differ from the results of the main model test. In the sensitivity model test, all hypotheses are accepted. This indicates that the variables of sustainability governance and digital transformation both influence firm performance. Furthermore, business ethics also strengthens the relationship between sustainability governance and digital transformation on firm performance.

Specifically, the results of hypothesis 2 testing in Table 2 (main model test) differ from those in Table 3 (sensitivity model test). Table 2 indicates that digital transformation does not affect firm performance, whereas Table 3 shows a significance value of 0.042 < 0.05, suggesting that digital transformation has a positive effect on firm performance. However, sustainability governance in Table 2 shows a higher coefficient value of 1.8052 compared to Table 3, which is only 1.6372. This indicates that the impact of implementing sustainability governance in Table 2 (main model test) is still higher than in Table 3 (sensitivity model test).

The expansion model test results represent an extension of the main model by dividing the independent variable components, specifically sustainability governance, into six dimensions: Board Structure and Composition, Ownership Structure, Ethics Compliance, OJK Regulation Number 51, Sustainability and Resilience, and Information Technology Governance (ITG). These six dimensions remain interacted with the moderating variable, in this case, Business Ethics.

Table 4. Expansion Model Test

Variable	Prediction	Coefficient	P-Value	Decision
Constant	-	7.3014	0.250	Not significant
Board Structure and Composition	+	0.0492	0.574	Not significant
Ownership Structure	+	0.0393	0.588	Not significant
Ethics and Compliance	+	0.0628	0.110	Not significant
OJK Regulation Number 51	+	0.0582	0.009	Significant
Sustainability and Resilience	+	0.2384	0.001	Significant
IT Governance	+	0.1623	0.000	Significant
Business Ethics x Board Structure and Composition	+	0.0257	0.449	Not significant
Business Ethics x Ownership Structure	+	0.0138	0.628	Not significant

Variable	Prediction	Coefficient	P-Value	Decision
Business Ethics x Ethics and Compliance	+	0.0202	0.166	Not significant
Business Ethics x OJK Regulation Number 51	+	0.0228	0.009	Significant
Business Ethics x Sustainability and Resilience	+	0.0918	0.001	Significant
Business Ethics x IT Governance	+	0.0651	0.000	Significant
R^2	0.963			
Adj-R^2	0.922			
F-Statistic	23.777			
Prob(F-Statistic)	0.000			
Effect	Fixed Effect			
Observation	312			

Table 4 show that the three original dimensions of sustainability governance, board structure and composition, ownership structure, and ethics and compliance, do not have a significant effect on firm performance. Conversely, the three newly proposed dimensions: POJK 51, sustainability and resilience, and IT governance, demonstrate a significant positive effect on firm performance. This suggests that regulatory-driven and operationally integrated dimensions of governance are more influential in enhancing performance compared to traditional structural governance attributes.

DISCUSSION

The results of the main model confirm that good sustainability governance enhances firm performance through the responsible management of environmental and social dimensions. This finding supports Stakeholder Theory by Freeman (1984), which emphasizes that firms are accountable not only to shareholders but also to a broader set of stakeholders, including society, government, and the environment. Companies implementing sustainability governance demonstrate a genuine commitment to social and environmental responsibilities, which in turn strengthens reputation and long-term business performance.

The study also contributes a methodological novelty by developing a more comprehensive set of governance indicators that integrate dimensions from POJK Regulation Number 51 of 2017, the ASEAN Corporate Governance Scorecard, and IT governance components that have been underexplored in prior research. This integration not only fills a gap in the existing literature but also aligns governance assessment with the increasing global emphasis on Environmental, Social, and Governance (ESG) principles. These findings are consistent with prior studies by Ma et al. (2022), Hristov et al. (2022), Neves et al. (2023), Ledi and Ameza (2023), and Agustina (2025), who affirm that sustainability-oriented governance significantly contributes to firm performance by encouraging strategic decision-making that balances economic goals with social responsibility. Furthermore, based on Agency Theory, effective governance mechanisms, particularly those promoting transparency in sustainability reporting, can mitigate conflicts of interest between managers and shareholders, ensuring that managerial actions align with broader stakeholder expectations (Jensen & Meckling, 1976). Meanwhile, the insignificant impact of digital transformation on firm performance suggests that, despite widespread adoption of digital tools, many firms may not yet fully realize their strategic potential to drive social or environmental outcomes. This could stem from a lack of integration between digital initiatives and sustainability objectives or limited organizational readiness to leverage digital resources effectively.

Nevertheless, the moderation results highlight the pivotal role of business ethics in amplifying the effectiveness of both sustainability governance and digital transformation. The significant moderating effect of business ethics implies that ethical foundations serve as a catalyst for maximizing the positive outcomes of corporate strategies. This supports the view of Waweru (2020), who argues that business ethics provide a value-based

framework that guides managerial behavior toward moral integrity and social responsibility. Similarly, Siswati and Pudjowati (2023) demonstrate that the application of sound business ethics enhances operational efficiency and fosters trust among stakeholders, trust that is essential for sustaining competitive advantage and organizational legitimacy.

The moderating effect of business ethics on the digital transformation–performance link also reflects what Andriyani and Nahar (2020) classify as a pure moderation, where the moderating variable significantly affects the relationship between independent and dependent variables despite having no direct influence itself. This finding is consistent with Floridi (2018), who emphasizes that ethics play a central role in guiding the responsible use of technology to ensure transparency, accountability, and stakeholder well-being. Furthermore, Xu et al. (2024) reinforce that business ethics critically shape the implementation of digital transformation, particularly in maintaining transparency, data protection, and responsible innovation. Firms adhering to high ethical standards are more likely to maintain public trust, prevent data misuse, and reduce regulatory risks, factors that ultimately support sustainable firm performance in the digital era.

The sensitivity model results show that all hypotheses are accepted, indicating that sustainability governance and digital transformation both positively influence firm performance, with business ethics strengthening these relationships. This finding aligns with Wang et al. (2020) and Guo and Xu (2021), who state that digital transformation enhances performance through improved efficiency, cost reduction, and long-term innovation. The difference from the main model, where digital transformation was insignificant, may reflect partial or uneven implementation across firms, as noted by Meng and Gong (2024). Although the sustainability governance coefficient slightly decreases, its influence remains strong, suggesting that digital transformation complements rather than replaces governance efforts.

These findings from the expansion model test indicate that the newly introduced dimensions: POJK 51, Sustainability and Resilience, and IT Governance play a more substantial role in driving firm performance compared to the original structural dimensions of sustainability governance. This reinforces the previous discussion by showing that practical, regulation-based, and technology-oriented governance mechanisms have a stronger and more direct impact on firm outcomes than formal board arrangements. This aligns with Naciti et al. (2022) and Sari (2023), who emphasize that the effectiveness of governance lies in how it functions in practice rather than in its structural composition. The significant influence of these new dimensions demonstrates that regulatory enforcement and digital integration enhance strategic governance, complementing earlier findings that digital transformation and ethical practices collectively strengthen firm performance.

CONCLUSION

This study examines the relationship between sustainability governance and digital transformation on firm performance, with business ethics as a moderating variable. Using content analysis and three testing models: the main, sensitivity, and expansion models, this research extends the corporate governance framework by incorporating new dimensions from POJK Regulation Number 51 of 2017, ACGS 2023, and IT governance indicators. The results show that sustainability governance consistently has a positive effect on firm performance, while digital transformation only shows a significant effect in the sensitivity model. Business ethics strengthens both relationships across models. The expansion model further reveals that structural dimensions such as board composition, ownership, and compliance are insignificant, whereas POJK 51, Sustainability and Resilience, and IT Governance significantly affect firm performance.

These findings imply that practical, regulation-based, and technology-oriented governance mechanisms are more effective than formal board structures. Companies should integrate sustainability and digital transformation into core strategies and cultivate ethical awareness through training and transparent decision-making. Governments can

enhance these efforts by providing incentives for sustainable and digital initiatives, strengthening ethical regulations, and fostering public–private collaboration. Society also plays a role by demanding responsible and sustainable corporate behavior.

However, this study faces several limitations: a short observation period (2022–2023), subjectivity in content analysis scoring, limited adoption of advanced digital technologies among firms, and the exclusion of external factors such as macroeconomic or cultural variables. Future research should extend the observation period, test additional moderators or mediators (e.g., innovation capability, digital literacy, or organizational culture), and combine quantitative and qualitative methods to explore the real-world application of sustainability governance, digital transformation, and business ethics.

REFERENCES

[1] Agustian, K., Mubarok, E. S., Zen, A., Wiwin, W., & Malik, A. J. (2023). The impact of digital transformation on business models and competitive advantage. *Technology and Society Perspectives (TACIT)*, *1*(2), 79–93.

[2] Agustina, E. S. (2025). The influence of sustainability, governance, and financial performance on investment. *Jurnal Ilmiah Manajemen Kesatuan*, *13*(5), 3983–3992.

[3] Ahmed, R. R., Pahi, M. H., Nadeem, S., Soomro, R. H., Parmar, V., Nasir, F., & Ahmed, F. (2023). How and when ethics lead to organizational performance: Evidence from South Asian firms. *Sustainability*, *15*(10), 8147-8160.

[4] Almaqtari, F. A., Farhan, N. H. S., Al-Hattami, H. M., & Elsheikh, T. (2023). The moderating role of information technology governance in the relationship between board characteristics and continuity management during the Covid-19 pandemic in an emerging economy. *Humanities and Social Sciences Communications*, *10*(1), 23-31.

[5] Chien, F. (2023). The role of corporate governance and environmental and social responsibilities on the achievement of sustainable development goals in Malaysian logistic companies. *Economic Research-Ekonomska Istrazivanja*, *36*(1), 1610–1630.

[6] Chopra, S. S., Senadheera, S. S., Dissanayake, P. D., Withana, P. A., Chib, R., Rhee, J. H., & Ok, Y. S. (2024). Navigating the challenges of environmental, social, and governance (ESG) reporting: The path to broader sustainable development. *Sustainability*, *16*(2), 606-617.

[7] Darmayani, N. L. M., & Asri Dwija Putri, I. G. A. M. (2025). The impact of gender diversity and the global financial crisis on firm performance through ESG dimensions. *Jurnal Ilmiah Akuntansi Kesatuan*, *13*(4), 779–790.

[8] Floridi, L. (2018). Soft ethics and the governance of the digital. *Philosophy and Technology*, *31*(1), 1-9.

[9] Freeman, R. B. (1984). Longitudinal analyses of the effects of trade unions. *Journal of labor Economics*, *2*(1), 1-26.

[10] Garas, S., & ElMassah, S. (2018). Corporate governance and corporate social responsibility disclosures: The case of GCC countries. *Critical Perspectives on International Business*, *14*(1), 2–26.

[11] Gorfie, G. T., & Wube, M. C. (2023). Business ethics and organisational performance: The mediating role of working conditions. *African Journal of Business and Economic Research (AJBER)*. *4562*, 391–413.

[12] Guo, L., & Xu, L. (2021). The effects of digital transformation on firm performance: evidence from China's manufacturing sector. *Sustainability (Switzerland)*, *13*(22), 1–19.

[13] Hba, R., & Manouar, A. El. (2018). ICT green alignment: New Generation model based on corporate social responsibility and green IT. *International Journal of Web Applications*, *10*(2), 64-75.

[14] Hristov, I., Chirico, A., & Ranalli, F. (2022). Corporate strategies oriented towards sustainable governance: advantages, managerial practices and main challenges. *Journal of Management and Governance*, *26*(1), 75–97.

[15] Hummel, K., Schlick, C., & Fifka, M. (2019). The role of sustainability performance and accounting assurors in sustainability assurance engagements. *Journal of Business Ethics*, *154*(3), 733-757.

[16] Jatana, C. (2023). Corporate governance, CEO compensation, and corporate performance: evidence from India. *Corporate Governance (Bingley)*, *23*(1), 132–168.

[17] Ledi, K. K., & Ameza–Xemalordzo, E. (2023). Rippling effect of corporate governance and corporate social responsibility synergy on firm performance: The mediating role of corporate image. *Cogent Business and Management*, *10*(2), 1–24.

[18] Luthfia, F., Mulyana, R., & Ramadani, L. (2022). Studi kasus pengaruh tata kelola ti terhadap transformasi digital dan kinerja bank B. *ZONAsi: Jurnal Sistem Informasi*, *4*(2), 100-116.

[19] Ma, Z., Shu, G., Wang, Q., & Wang, L. (2022). Sustainable governance and green innovation: A perspective from gender diversity in China's listed companies. *Sustainability (Switzerland)*, *14*(11), 64-77

[20] Masibigiri, P., Dandadzi, A., & Seeletse, S. (2024). The adoption of information technology governance frameworks by universities in Gauteng province, South Africa. *International Journal of Research in Business & Social Science*, *13*(7), 34-36.

[21] Meckling, W. H., & Jensen, M. C. (1976). Theory of the firm. *Managerial behavior, agency costs and ownership structure*, *3*(4), 305-360.

[22] Naciti, V., Cesaroni, F., & Pulejo, L. (2022). Corporate governance and sustainability: A review of the existing literature. *Journal of Management and Governance*, *26*(1), 55-74.

[23] Naeem, M. A., Karim, S., Nor, S. M., & Ismail, R. (2022). Sustainable corporate governance and gender diversity on corporate boards: evidence from COVID-19. *Economic Research-Ekonomska Istrazivanja* , *35*(1), 5824–5842.

[24] Nair, A. K. S., & Bhattacharyya, S. S. (2019). Mandatory corporate social responsibility in India and its effect on corporate financial performance: Perspectives from institutional theory and resource-based view. *Business Strategy and Development*, *2*(2), 106–116.

[25] Neves, M. E., Santos, A., Proença, C., & Pinho, C. (2023). The influence of corporate governance and corporate social responsibility on corporate performance: An Iberian panel data evidence. *EuroMed Journal of Business*, *18*(4), 552-574.

[26] Ogbari, M. E., Oke, A. O., Ibukunoluwa, A. A., Ajagbe, M. A., & Ologbo, A. C. (2016). Entrepreneurship and business ethics: Implications on corporate performance. *International Journal of Economics and Financial Issues*, *6*(3), 50-58.

[27] Ramachandran, J., Alam, N., & Goh, C. E. (2020). A win-win situation for both managers and shareholders: A study of ASEAN corporate governance. *Managerial Finance*, *46*(8), 977–1000.

[28] Rudi, J., & Mukhlis, I. (2023). Implementasi etika bisnis dalam perusahaan di indonesia pada era modern: Literatur review. *Business and Investment Review*, *1*(6), 97-102.

[29] Saha, R., Shashi, Cerchione, R., Singh, R., & Dahiya, R. (2020). Effect of ethical leadership and corporate social responsibility on firm performance: A systematic review. *Corporate Social Responsibility and Environmental Management*, *27*(2), 409-429.

[30] Sari, A. R. (2023). The impact of good governance on the quality of public management decision making. *Journal of Contemporary Administration and Management (ADMAN)*, *1*(2), 39-46.

[31] Siswati, E., & Pudjowati, J. (2023). Optimizing the performance of domestic companies in Surabaya through the implementation of business ethics in managing companies. *International Journal of Business Ecosystem & Strategy (2687-2293)*, *5*(3), 102–106.

[32] Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *Journal of Strategic Information Systems*, *28*(2), 118–144.

[33] Wahyudin, W., Titin, A., Gunadi, T., & Elya, R. (2022). Pengaruh implementasi prinsip good corporate governance (gcg) terhadap kinerja keuangan (Studi kasus bank Bjb ZIEBAR Bandung, Jawa Barat). *Jurnal Co Management*, *4*(2), 696–701.

[34] Wang, H., Feng, J., Zhang, H., & Li, X. (2020). The effect of digital transformation strategy on performance: The moderating role of cognitive conflict. *International Journal of Conflict Management*, *31*(3), 441–462.

[35] Waweru, N. (2020). Business ethics disclosure and corporate governance in Sub-Saharan Africa (SSA). *International Journal of Accounting and Information Management*, *28*(2), 363–387.

[36] Xu, S., Zhang, S., Ren, Y., Jiang, Q., & Wu, D. (2024). Can digital transformation restrain corporate esg greenwashing—a test based on internal and external joint perspectives. *Systems*, *12*(9), 334-345.

[37] Yin, M., & Sheng, L. (2019). Corporate governance, innovation input and corporate performance: Empirical research based on endogeneity and industry categories. *Nankai Business Review International*, *10*(1), 120–137.

[38] Zarefar, A., & Zarefar, A. (2023). Analysis of corporate governance and corporate sustainability performance in the Indonesian context. *Business: Theory and Practice*, *24*(1), 137–147.

[39] Zhang, G., Wang, X., Xie, J., & Hu, Q. (2024). A mechanistic study of enterprise digital intelligence transformation, innovation resilience, and firm performance. *Systems*, *12*(6), 1–32.

[40] Zhang, X., Xu, Y. Y., & Ma, L. (2023). Information technology investment and digital transformation: the roles of digital transformation strategy and top management. *Business Process Management Journal*, *29*(2), 528–549.