Impacts of Sustainability on Telecommunication Firms' Financial Performance in Asia Pacific Region

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ABSTRACT

This study examines the impact of sustainability, measured by ESG scores, on the financial performance of telecommunications firms. Specifically, we analyze the relationship between ESG scores and two key financial performance metrics: earnings before interest and taxes ratio and return on average assets ratio. The three ESG pillars are used: environmental, social, and governance, as well as an aggregate ESG score (ESGD) as predictor variables. Control variables include leverage, revenue, asset turnover ratios, and firm size (log). The findings indicate that the three individual ESG pillars negatively impacted ROA, along with leverage and revenue. Conversely, aggregate ESG, and asset turnover had a positive impact on ROA. Interestingly, none of the three ESG pillars, including aggregate ESG, leverage, firm size (log), revenue (log), and asset turnover, showed a significant impact on EBIT. Notably, the three ESG initiatives – governance, environmental, and social factors – exhibited an inverse relationship with the performance of the telecommunications industry, particularly in terms of its return on assets.

Keywords: Environmental; Social; Governance; Financial performance.

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1. INTRODUCTION

The rapid growth of telecommunications has made information readily accessible both within and outside the workplace. Telecoms are now essential for both businesses and individuals. The COVID-19 pandemic accelerated this trend, prompting many companies to adopt work-from-home or hybrid arrangements. This increased reliance on telecommunications has placed pressure on providers to enhance their services and infrastructure. However, the expansion of this sector also raises concerns about carbon emissions. To address this, telecommunications companies must prioritize energy efficiency and responsible resource allocation. Investing in advanced digital communication technologies and optimizing energy efficiency are crucial for telecommunications companies to remain competitive (Holmer, 2023). These initiatives can influence customer subscription choices and impact investor returns. Telecom management faces the challenge of balancing investor expectations for financial returns

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with environmental, social, and governance (ESG) considerations. While many studies focus on a single country, further research is needed to explore the effects of ESG on business values across different regions (Aydogmus et al., 2022; Pickwick and Sewelen, 2021; Kumar and Firoz, 2022).

1.1. Statement of the Problem

The study examined how the three ESG pillars affect the telecom companies' performance using ROA and EBIT.

1.2. Hypotheses of the Study

H_{O1}: The environmental pillar does not significantly impact the telecommunications industry's performance, specifically on its financial condition (ROA and EBIT).
H_{O2}: The social pillar does not significantly impact the telecommunications industry's performance, specifically on its financial condition (ROA and EBIT).
H_{O3}: The governance pillar does not significantly impact the telecommunications industry's performance, specifically on its financial condition (ROA and EBIT).
H_{O4}: The aggregate ESG does not significantly impact the telecommunications industry's performance, specifically on its financial condition (ROA and EBIT).

1.3. Significance of the Study

This study contributes valuable insights for managers, investors, and regulators by examining the relationship between a firm's ESG scores and its financial performance. The findings can inform managers' decision-making regarding operational practices and help them assess the impact of ESG initiatives on corporate success. Regulators can utilize the study's results to refine ESG implementation guidelines and promote sustainable business practices.

1.4. Scope and Limitations

This research employed panel data regression analysis to investigate the impact of ESG scores on the financial performance of 32 telecommunications companies across 11 countries from 2018 to 2022. The study focused on three ESG pillars: environmental (EnvD), social (SocD), and governance (GovD), as well as an aggregate ESG score (ESGD). Control variables included leverage, revenues, and asset turnover. Financial performance was measured using two dependent variables: Return on Average Assets (ROAa) and Earnings Before Interest and Taxes (EBIT).

2. LITERATURE REVIEW

Sustainability has become part of companies' social responsibility activities. Over the past decade, it has become a practice for companies to include it in their planning activities as part of their initiatives rather than as a reportorial and regulatory compliance. Omeir *et al*. (2024) emphasized that sustainability reports are submitted regularly in compliance with local regulatory requirements and global regulatory initiatives. Records from reports revealed several areas of information disclosure that were provided by the companies in the Philippines, and the most common are related to energy, emission,

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water, biodiversity, and other reportorial requirements on environmental disclosure. Purnomo and Widiangnishih (2012) cited the direct influence of the firm's environmental score on its financial performance. Deng and Cheng (2019) noted a significant effect on financial and equity performances by the social pillar. According to Liang *et al.* (2023), ESG ratings directly and significantly contribute to its performance, especially in the stock market.

The study by Palupi (2023) also revealed that investors' reactions to company announcements influence their investment decisions, as shown by the information they gather about a company's ESG compliance.

According to Naeem and Cankaya (2022), the ESG indicators of international power and energy production firms were significantly correlated with profitability based on the measures used in the return on equity (ROE) ratio. Furthermore, size negatively affected profitability. ESG indicators negatively impacted the company's pre-tax return on assets (ROA). The firm's leverage ratio has an inverse effect on pretax ROA. The company's high debt negatively impacted Tobin's Q. Aydogmus *et al.* (2022), however, cited the significant relationship between business value and profitability and the overall score on ESG. It demonstrated that investors prefer funding companies participating in ESG initiatives. Nevertheless, after analyzing each ESG score pillar separately, the outcome revealed that there was a significantly positive association between business value and social and governance. According to Hidayah and Kartikadevi (2021), the environment has a substantial and direct impact on the firm's performance.

Kumar and Firoz's (2022) study also showed that Indian businesses" financial success using ROCE and ROA was positively and significantly impacted by their total ESG scores. Additional findings cited the absence of the beneficial impact of social scores on financial success. Furthermore, the company's growth and leverage are not positively correlated with financial performance. Further studies may investigate using Tobin Q and stock price as performance indicators for the company. It would be advantageous to investigate how ESG affects businesses in various nations.

A study by Putri and Pramesti (2024) on the energy sector in Indonesia found that environmental and social performance were significantly affected by financial performance, while no significant impact was seen with governance. Likewise, the study of Harisa *et al.* (2019) found that governance performance and leverage were not significantly associated with profitability in the selected industry. Both studies suggest further investigation into how governance impacts the performance of other sectors in terms of finances. However, these findings contradict those of Ngollo and Mwenda (2022). Their findings showed the positive effect of the governance pillar on ROA.

Pickwick and Sewelen (2021) conducted pre-crisis and post-crisis studies of European listed companies, spanning 2003 to 2006 and 2010 to 2019. Just before the crisis, ESG pillars had a direct influence on the return of assets (ROA) of the company. Likewise, during the pre-crisis and post-crisis eras, the market-based performance of the company demonstrated a positive correlation with ESG. Furthermore, when the performance measures were limited to examining the environmental score for the two periods (before and after the crisis), the result revealed a significant correlation. Social factors and ROA were positively correlated after the crisis. Research can be done to find out how ESG impacts company performance globally, not just during the crisis-related time frame.

According to a study by Buallay and Al Marri (2022), ESG is inversely connected with market success, as measured by Tobin's Q, in the IT and telecom industries. Investors are primarily focused on cost-effectiveness. It did not, however, demonstrate a connection

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between its financial performance as determined by ROE and its operational performance as determined by ROA. Furthermore, the results showed an inverse link between leverage and ESG performance. Creditors do not support ESG engagement in firms with credit. Future research may consider more businesses in the same industry across national borders to support the findings.

Conversely, a study by Gao *et al.* (2022) found that ESG pillars influence the value and profitability of Chinese publicly traded enterprises. The findings indicated that each ESG pillar impacts the company's profit and stock prices. However, one of ESG's environmental pillars has a detrimental impact on profit. Also, Purnomo and Widianingsih (2022) found that the environmental pillar significantly and positively impacted the performance of the companies.

Ahmad *et al.* (2021) conducted a study spanning eleven industries, including the telecommunication industry. They found that the overall ESG score favorably influenced the financial performance of the companies selected using published data from 2002 to 2018. However, the degree of ESG performance was correlated with different financial performances. Better ESG scores increased market value and earnings per share. The results also demonstrated the moderating influence between ESG and financial success. Future studies may look at additional businesses around the nation. The particular focus is on delving deeper into the areas of governance (gender profile and board characteristics), social welfare (charity, employee welfare), and the environment (CO_2 emissions).

The study of Carnini Pulino *et al*. (2022) shows that ESG pillars positively correlate with earnings per share. This correlation was observed among selected sectors, including the telecommunication sector. The study also showed how two of the ESG pillars improved companies' performance. Future studies may perform cross-sectional analysis by adding more countries instead of focusing on one country. Other financial performance metrics can also be used to examine the ESG index.

Yoon *et al*. (2018) revealed that stock prices have positive correlations with the ESG scores using CSR. The findings also showed that the impact differs according to the type of businesses and the potential environmental effects of their activities. CSR is believed to have less influence if a company's operations are likely to impact the environment.

The firm's financial performance was correlated with each ESG pillar differently (Oprean *et al.*, 2020). It has been noted that ESG actions have a detrimental impact. Analysis confirms that better governance can improve financial performance. Low social activity could be negatively impacted by performance in terms of finances. Further, the research highlights the significance of environmental and social sustainability initiatives. Cankaya and Susman's (2020) study reveals that each pillar of ESG scores showed no significant association with the airline company's performance using a panel regression model. However, the return on assets (ROA) was significantly correlated with the overall scores of the ESG. Further results revealed that financial performance measures have no association with ESG scores.

Chen *et al.* (2022) conducted a systematic review of the literature. They revealed that most of the results, considering the effect of COVID-19, showed that ESG has no significant association with corporate performance. Future research may focus on Asian nations, as suggested for most research covering the US or Europe. Kalyani and Mondal (2024) reveal the positive relationship between ESG performance and financial performance that promotes sustainability using three measures of financial performance:

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investing, stock market, and cost of capital. There were varying results in terms of relationships between industries and countries.

Radwan and Xiongyuan's (2023) study reveals ESG's positive influence on the firm's performance in BRICS countries. Only the government pillar did not positively impact firm value. Investors highly regarded the two ESG pillars (environmental and social) activities. Future research may investigate the same focus with other countries. The study of Grishunin *et al*. (2022) showed that performance related to ESG among telecommunication firms in the US had impacted their market value, as measured by Tobin-Q. Contrary to Radwan and Xiongyuan's (2023) result, only ESG performance in government activities impacted Tobin-Q.

Further analysis revealed that contrary to the research conducted in countries with financial institutions still needing to be developed fully, the outcome reflected the significant impact on the value of the firm considering the pillars related to performance in environmental and social aspects. Furthermore, an increase in profitability and leverage increases the firm's value. Also, corporate social responsibility, the level of independent directors, and gender diversity positively affected the telecommunications sector. It was suggested that the influence of ESG on the performance of firms in different sectors of the economy be examined. Whetman's (2017) study reveals that ROE, ROA, and profit margin have positive impacts on performance related to finances. The outcome is reflected in firms with few institutional investors.

The study by Zhou *et al*. (2023) points out that performance in environmental and social aspects has been positively associated with performance related to finances. Results further indicated that performances pertaining to environment and finances have moderating roles of ownership concentration. Also, ownership concentration showed a moderating role between social performance and financial performance. Kesari and Rawat (2023) indicated the significant and positive relationship between CSR and financial performance in companies in India. The author suggests that future studies be conducted to address the less substantial effect of Corporate Social Responsibility (CSR) on EBIT and ROA. At the same time, the study of Carnini Pulino *et al*. (2022) revealed significant positive effects of social disclosure on EBIT.

3. FRAMEWORK

Many companies adopt the three pillars of corporate sustainability as a strategic framework to create value for shareholders, customers, employees, and the broader community, aligning with the sustainable development goals (SDGs) set by the United Nations. These pillars, often referred to as purpose, people, planet, and profit, are typically reflected in a firm's financial reporting. They are believed to demonstrate the implementation of sustainable practices that enhance financial performance. It is commonly thought that strong ESG scores can lower a firm's cost of capital, leading to increased profits and greater shareholder value.

This study evaluates the overall impact of ESG on operating performance, as indicated by operating income, while considering the natural logarithm of return on average assets. Additionally, we assess the influence of several firm-specific variables on profitability. Control variables include leverage, firm size (proxied by total assets), revenues, and the total asset turnover ratio, all measured using their natural logarithm.

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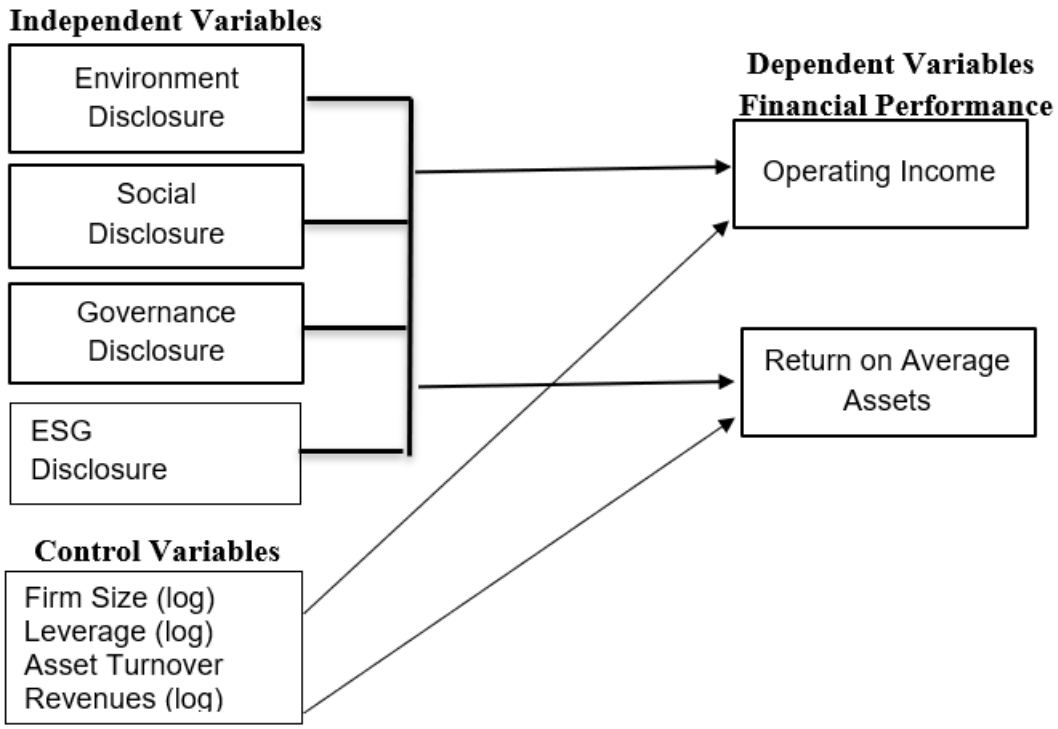

Figure 1. *Conceptual Framework*

4. METHODOLOGY

4.1. Research Design

The study employed a causal-explanatory research design to investigate the impact of ESG indicators, controlling for relevant variables, on the financial performance of telecommunication firms. This design was deemed appropriate for establishing the relationship between the variables under investigation.

4.2. Data Collection and Analysis

This study utilized a balanced panel dataset comprising 32 telecommunication companies listed on various stock exchanges in the Asia-Pacific region. The data covered the period from 2018 to 2022. Inclusion criteria required complete ESG data from Refinitiv Eikon for the entire period. The limited existing research examining the impact of ESG scores on telecommunication companies' financial performance motivated the selection of this research focus. The analysis encompassed 52 cross-sectional data points over five years. ESG scores were treated as independent variables, while control variables included Leverage, Firm Size (proxied by Total Assets), Revenues, and Total Asset Turnover Ratio. The dependent variables focused on financial performance metrics, namely, Return on Assets (ROA) and Earnings Before Interest and Taxes (EBIT).

Data processing and analysis were conducted using three panel regression models. As a result, we have chosen a random effect model (BP-test RE vs. OLS p-value: < 2.22e-16). The analysis was performed using the statistical software R and RStudio.

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The regression model employed in this study is represented by the following equation:

$Profit_{it} = \beta_0 + \beta_1 X_{nit} + \beta_2 Z_1 + \beta_3 Z_{2it} + \beta_4 Z_{3it} + \beta_4 Z_{4it} + ej$

Where:

- Profit represents the dependent variables, Return on Assets (ROA), and Earnings Before Interest and Taxes (EBIT) for each firm i and year t. ROA is calculated as net profit after tax divided by average total assets. EBIT refers to earnings before interest and taxes. - Xnit represents each sustainability performance dimension, namely, environmental performance, social performance, governance performance, and aggregate ESG.

- Z1 refers to leverage.
- Z2 it refers to revenue.
- Z3 it refers to asset turnover ratio.
- Z4 it refers to firm size.
- βi represents the regression coefficients.
- ej represents the error term.

5. RESULTS AND DISCUSSIONS

Table 1. Descriptive Statistics

	ROA_a	*EBIT_ln*	*EnvD*	*SocD*	*GovD*	*ESGD*	*Leverage*	*FSIZ_ln*	*REV_ln*	*ASTO*
Mean	0.03	0.17	49.14	57.34	61.41	56.75	0.38	23.23	22.33	0.47
Standard Error	0.01	0.01	1.74	1.60	1.55	1.34	0.02	0.10	0.12	0.02
Median	0.04	0.21	49.12	59.11	61.06	57.76	0.40	23.21	22.25	0.45
Mode	0.05	0.00	0.00	62.95	47.99	61.30	0.37			0.53
Standard Deviation	0.08	0.09	21.99	20.24	19.65	16.91	0.20	1.31	1.50	0.20
Sample Variance	0.01	0.01	483.62	409.77	385.95	286.02	0.04	1.71	2.25	0.04
Kurtosis	5.84	0.17	-0.45	-0.35	-0.68	-0.04	1.32	-0.71	-0.11	0.05
Skewness	-1.74	-1.43	-0.57	-0.42	-0.26	-0.55	0.58	0.29	0.01	0.28
Range	0.58	0.24	85.23	84.64	83.86	76.75	1.10	5.52	7.32	1.07
Minimum	-0.32	0.00	0.00	8.86	13.45	10.78	0.00	20.57	18.11	0.01
Maximum	0.26	0.24	85.23	93.50	97.31	87.53	1.10	26.09	25.43	1.08

Note: Authors" computation

Table 1 provides the summary statistics for the variables used in the study, where the means and standard deviations were computed. The means generated for all predictors, namely, environment, social, governance, and the aggregate ESGD, were acceptable, but the standard deviations generated were moderately high. Since the telecommunication companies included in the sample have a complete ESG dataset for the five years, it is expected that more significant disparities among these companies" ESG scores based on their compliance will be high (where 0.00 means non-compliance while 100 means full compliance), as this is undertaken voluntarily.

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Environment performance is high (μ=49.14, SD=21.99), followed by social performance (μ=57.34, SD=20.24), and governance performance (μ=61.41, SD=19.65) while the aggregate ESGD (μ=56.75, SD=16.91). Governance performance got the highest mean value, which means that compared to the other ESG components, telecommunication companies considered this to be a vital pillar. Likewise, the scope and magnitude of the compliance will also vary in the countries where they operate. The financial data or ratios that were generated from the company's financial statements show that the deviation or variation among companies is very low.

Table 2. Variance Inflation Factor

Variable	Variance Inflation Factor
EnvD	49.716636
SocD	271.475922
GovD	63.165623
ESGD	665.690772
Levln	1.969437
FSIZ_ln	22.040704
REV_ln	28.181278
ASTO	4.373931

Note: Authors" computation

Table 3. Correlation Matrix

	ROA_a	*EBIT_ln*	*EnvD*	*SocD*	*GovD*	*ESGD*	*Leverage*	*FSIZ_ln*	*REV_ln*	*ASTO*
ROA_a	1.00									
EBIT_ln	0.11	1.00								
EnvD	0.32	-0.13	1.00							
SocD	0.35	-0.35	0.70	1.00						
GovD	0.10	-0.16	0.40	0.33	1.00					
ESGD	0.35	-0.30	0.83	0.92	0.62	1.00				
Levln	-0.31	-0.25	-0.19	-0.17	-0.25	-0.24	1.00			
FSIZ_ln	0.01	0.29	0.40	0.24	0.28	0.35	-0.46	1.00		
REV_ln	0.17	0.21	0.50	0.37	0.38	0.49	-0.63	0.91	1.00	
ASTO	0.50	-0.15	0.41	0.38	0.29	0.44	-0.34	0.00	0.36	1.00

Note: Authors" computation

Table 2 reveals that multicollinearity exists among certain variables, as demonstrated by the Variance Inflation Factor (VIF). If firm size and aggregate ESG were to be omitted, the VIF values for the remaining regressors (ESG components) and control variables would indicate that multicollinearity is absent. However, adding these two variables to the regression test will reflect high multicollinearities for all the variables except leverage and ASTO. A higher correlation coefficient between the three ESG components and aggregate ESG score and between revenue and company size was evident. We initially remove the inclusion of asset or firm size in the regression model to ensure absence of multicollinearity among the variables.

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Table 4. Regression Results on the Effect of Sustainability Performance Indicators on the Return on Average Assets

	OLS Model	Fixed Effects	Random Effects
Intercept	0.151 (0.127)		-0.037 (0.181)
Environmental Dimension	-0.004 (0.002)*	-0.003 (0.001)*	-0.003 (0.001)**
Social Dimension	-0.009 (0.004)*	-0.011 (0.003)***	-0.010 (0.003)***
Governance Dimension	-0.005 (0.002)**	-0.006 (0.001)***	-0.006 (0.001)***
Aggregate ESG	0.019 (0.008)*	0.019 (0.005)***	0.020 (0.005)***
Leverage	-0.126 (0.035)***	-0.049 (0.047)	-0.078 (0.039)*
Firm Size (Log)	0.030 (0.018)	0.083 (0.030)**	0.040 (0.021)
Revenue (Log)	-0.041 (0.018)*	-0.050 (0.026)	-0.044 (0.020)*
Asset Turnover	0.223 (0.052)***	0.393 (0.082)***	0.280 (0.062)***
R2	0.381	0.31	0.305
Adj. R2	0.348	0.086	0.268
Num. obs.	160	160	160
s_idios			0.043
s_id			0.044
F-test FE vs. OLS p-value: 8.489e-15			
Hausman test FE vs. RE p-value: 0.22445			
BP-test RE vs. OLS p-value: < 2.22e-16			

Notes: Standard errors in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1.

The summary results for the regression estimations that were used, namely: Pooled OLS, Random Effects Model (REM), and fixed effects model (FEM) on the impact of ESG on the Return on Average Assets, respectively, are shown in Table 4. Additional diagnostic tests were conducted to determine the regression estimation that is appropriate to test the hypotheses formulated in the study, and both the Breusch Pagan Lagrange Multiplier and Hausman test results indicated a preference for using the Random Effects model. The following findings are based on the preferred model: intercept: -0.037(se = 0.181), which was not statistically significant.

The findings revealed that the environmental, social, and governance pillars had a statistically significant negative impact on ROA, with the exception of the aggregate ESG variable. This suggests that individual ESG dimensions might have a different impact on financial performance than the overall ESG score. The aggregate ESG showed a significant positive impact on the ROAa (β=.020, SE=0.005, p<.05); thus, the study rejected H_{O4} as the p-value is less than 0.05. The result corroborates the findings of Naeem and Cankaya (2022), where a significant but negative impact of governance indicators on the company's pretax ROA was found. The findings contradict those of Ngollo and Mwenda (2022), who mentioned that the governance indicator was positively correlated with ROA. In addition, it contradicts the findings of Harisa *et al*. (2019), which showed that governance performance did not affect ROA. Company management believes that corporate governance performance burdened its finances and does not contribute to financial performance. Sobrino's (2023) study highlights a compelling negative relationship between ROA and ESG scores. Increasing spending on employee well-being or governance may lead to short-term decreases in financial performance; however, it can yield long-term benefits. In the pursuit of creating value for customers and investors, there may be a cost counterpart to the short-term financial performance of the firm.

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The study rejected $H_{O1,}$ H_{O2}, and H_{O3}, which state that environmental, social, and governance dimensions, respectively, do not significantly impact profitability as measured by ROA. The study result is supported by the findings of Purnomo and Widianingsih (2022), even though the former examined manufacturing firms. The findings on the impact of environmental and social performance are contradicts with the findings of Zhou *et al.* (2023) findings on the positive effect of these sustainability pillars on the firm's return on assets ratio. The adverse effects were noted for leverage, showing statistical significance (-0.078, SE = 0.039, $p < .05$). Asset Turnover had a significant and positive impact on ROAa (0.280, SE = 0.062, $p < .001$).

Table 5. Regression Results on the Impact of Sustainability Performance Indicators on Earnings Before Interest and Taxes

	OLS Model	Fixed Effects	Random Effects
Intercept	-0.123 (0.144)		-0.227 (0.191)
Environmental Dimension	0.001 (0.002)	0.001 (0.000)	0.001 (0.001)
Social Dimension	0.000 (0.005)	-0.001 (0.002)	-0.000 (0.002)
Governance Dimension	0.000 (0.002)	-0.000 (0.001)	-0.000 (0.000)
ESG Combined	-0.004 (0.009)	-0.000 (0.004)	-0.001 (0.004)
Leverage	-0.108 (0.040)**	0.029 (0.031)	0.012 (0.030)
Firm Size (Log)	0.032 (0.021)	0.019 (0.020)	0.024 (0.017)
Revenue (Log)	-0.013 (0.020)	-0.008 (0.017)	-0.005 (0.016)
Asset Turnover	0.010 (0.059)	0.061 (0.054)	0.048 (0.050)
R^2	0.329	0.049	0.078
Adj. R^2	0.293	-0.26	0.029
Num. obs.	160	160	160
s_idios			0.028
s_id			0.063
F-test FE vs. OLS p-value: < 2.22e-16			
Hausman test FE vs. RE p-value: < 2.22e-16			
BP-test RE vs. OLS p-value: < 2.22e-16			

Standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

The results indicated that none of the ESG pillars had a significant impact on EBIT. This lack of significance might be attributable to multicollinearity among the ESG variables, as indicated by variance inflation factor test. To investigate the potential impact of social performance, we conducted a separate regression analysis excluding the aggregate ESG score and firm size. This analysis revealed a statistically significant negative relationship between social performance and EBIT ($\beta = 0.000$, SE = 0.000, $p < .05$). However, due to the presence of multicollinearity, we cannot definitively conclude that social performance has a causal effect on EBIT. Thus, due to the inclusion of ESG combined and Firm size (log) the study accepted $H_{01,}$ $H_{02,}$ and $H_{03,}$ and $H_{04,}$ that environmental, social and governance pillars and aggregate ESG does not significantly impact financial performance as measured by EBIT (p-value > 0.05), respectively. The results were supported by the findings of Kesari **(**2023), where no significant relationship exists between each of the three pillars and EBIT. Also, the results contradict the study of Carnini Pulino *et al.* (2022), which showed significantly positive effects of social performance on the company's performance measured by EBIT.

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5. CONCLUSIONS

This study concludes that sustainability initiatives encompassing environmental, social, and governance (ESG) factors have significantly and inversely affected the financial performance of the telecommunications industry. While the aggregate ESG score positively impacted financial performance, the individual ESG pillars demonstrated varying effects, with none showing a significant positive influence on Earnings Before Interest and Taxes (EBIT). The divergent outcomes regarding the environmental factor may stem from differences in industry characteristics between this study and Purnomo and Widianingsih's (2022) research. As regulatory frameworks evolve, such as the impending European regulations on deforestation set to take effect by the end of 2024, companies must assess the implications of these regulations on their ESG practices. Firms involved in the trading of commodities linked to deforestation, such as cattle and palm oil, should rigorously evaluate the impact of their ESG initiatives on financial metrics like ROA and EBIT. Sobrino's (2023) study among selected European companies indicates a significant negative relationship between ESG factors and ROA, reinforcing the need for companies to align their practices with the UN's Sustainable Development Goals while navigating the cost burdens associated with ESG compliance. To enhance financial performance, companies should explore strategies to minimize the costs of ESG investments while maximizing their potential benefits. Future research should consider employing diverse ESG score providers and investigate the reasons behind the negative effects of ESG initiatives on stock returns and overall financial performance.

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