

ESG Performance and Corporate Value: Evidence from Korean IT Companies

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Abstract

Due to the growing importance of ESG management, various studies have been conducted to explore the relationship between ESG performance and corporate value. The purpose of this study is to investigate how a company's ESG performance impacts its corporate value. The research findings indicate that there is difficulty in explaining the relationship between ESG performance of Korean IT companies and firm value in a straightforward manner. However, the results demonstrate that companies with higher profitability, higher foreign ownership, and higher R&D expenditure tend to have a positive impact of ESG ratings on corporate value. Based on these results, we can infer that Korean IT companies can enhance their corporate value by increasing R&D investments to develop innovative products that improve profitability. Additionally, attracting higher foreign investments can also positively influence ESG performance and subsequently increase corporate value. Acknowledging these factors can help companies realize the significance of ESG performance in elevating their overall corporate value.

Keywords: *ESG, ESG Performance, Corporate Value, IT Companies, Foreign Ownership, R&D, ROA*

1. Introduction

ESG(Environment, Social, and Governance) has emerged as a standard for investment decisions among investors, indicating their commitment to consider not only financial returns but also a company's sustainability and social impact when selecting investment targets. As a result, ESG investment leads to ESG management, and consumers tend to prefer products from companies practicing ESG management, creating a positive cycle that emphasizes corporate sustainability and social responsibility in their business practices.

Studying the relationship between ESG management and corporate performance is highly meaningful and provides essential insights to all stakeholders involved with a company. Through the assessment of ESG-related data and metrics, a company's social responsibility and environmental impact can be evaluated, reflecting not only economic success but also social value and influence. These changes promote sustainable and ethical business and investment environments, encouraging the growth of socially responsible companies. Overall, embracing ESG principles benefits society as a whole and supports the development of businesses with strong ethical commitments.

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This paper aims to investigate and analyze the relationship between ESG performance and corporate value on the IT industry. The structure of this paper is organized into a literature review, empirical analysis, and conclusions.

2. literature Review

Research on the relationship between ESG performance and corporate value has been extensively conducted both domestically and internationally. This reflects the significance of ESG performance. It has been revealed that there is a positive relationship between a company's social responsibility and financial performance, with intangible assets playing a crucial role [1]. Some researchers argue that there is a statistically significant positive relationship between ESG information disclosure and corporate value [2]. Additionally, there are research findings suggesting that companies with higher ESG scores tend to maintain even greater long-term growth and stability [3].

On the other hand, there are research findings indicating that ESG performance in terms of a company's social and environmental aspects has a significant impact on stock prices, while ESG performance in terms of governance does not play a significant role. [4]. In a study examining the correlation between ESG indicators and financial performance, it was reported that companies with high ESG scores demonstrated long-term growth and stability [5]. In their research, they found a positive correlation between ESG factors and a company's financial performance. Particularly, ESG factors related to social responsibility had a more significant impact on a company's financial performance. The results of a study conducted on multinational companies revealed that the impact of ESG scores on corporate value is more positive when an integrated report based on global standards is prepared than when ESG activities are disclosed [6]. There are also studies that show companies with positive non-financial performance in areas such as the environment, social responsibility, and corporate governance, using several other variables, have demonstrated improved profitability and cash generation capability [7]. These companies were also observed to engage in continuous investment activities. In a study that supports previous research findings, it was revealed that ESG performance has a significant and positive impact on firm value (Tobin's Q) [8]. Specifically, the positive relationship between ESG performance and firm value was more pronounced, especially in companies with higher profitability or higher levels of foreign ownership. This suggests that a company's ESG activities can have a more substantial effect in firms with well-supported profitability or high transparency due to the presence of normative investors. In a study of 100 Chinese IT companies, the analysis of the relationship between ESG ratings and stock returns revealed that ESG integrated ratings and ratings in the Environmental (E), Social (S), and Governance (G) sectors had a significant positive (+) impact on stock returns. This indicates a tendency for ESG ratings to have a positive influence on corporate stock returns [9].

Based on a comprehensive review of prior research, it has generally been found that ESG performance tends to have a positive impact on firm value. Additionally, foreign ownership, ownership by the largest shareholder, proportion of intangible assets, firm size, and profitability were identified as factors that are related to ESG ratings and firm value. Building upon these previous studies, this research aims to analyze the relationship between ESG performance and characteristic variables of Korean IT companies and their impact on firm value.

3. Empirical Analysis

3.1 Samples and Research Model

The sample of this study consists of 60 IT companies listed on the Korea Exchange (KRX) main and KOSDAQ markets. The sample includes companies that were evaluated for their ESG ratings by KCGS(Korea Institute of Corporate Governance and Sustainability) from 2012 to 2019, covering an 8-year period. The following multiple

regression model is used for the empirical analysis, aiming to examine the impact of ESG performance on corporate value. The regression analysis aims to provide insights into the relationship between ESG performance and corporate value in the context of the selected IT companies over the given period.

$$TQ_{i,t} = \beta_0 + \beta_1 ESG - T, E, S, G_{i,t} + \beta_2 FCF_{i,t} + \beta_3 For_{i,t} + \beta_4 Maj_{i,t} + \beta_5 RD_{i,t} + \beta_6 ROA_{i,t} + \beta_7 Debt_{i,t} + \beta_8 Size_{i,t} + \beta_9 Year_D + \epsilon \tag{1}$$

$$TQ_{i,t} = \beta_0 + \beta_1 ESG - T_{i,t} + \beta_2 FCF_{i,t} + \beta_3 Maj_{i,t} + \beta_4 Debt_{i,t} + \beta_5 Size_{i,t} + \beta_6 ESG \times ROA_D_{i,t} + \beta_7 ESG \times For_D_{i,t} + \beta_8 ESG \times RD_D_{i,t} + \beta_9 Year_D + \epsilon \tag{2}$$

$$TQ_{i,t} = \beta_0 + \beta_1 ESG - T_{i,t} + \beta_2 FCF_{i,t} + \beta_3 Maj_{i,t} + \beta_4 Debt_{i,t} + \beta_5 Size_{i,t} + \beta_6 ROA_D_{i,t} + \beta_7 For_D + \beta_8 RD_D_{i,t} + \beta_9 Year_D + \epsilon \tag{3}$$

The table 1 provides an explanation of the variables, their respective definitions, and the methods used to calculate each variable. TQ is used as the dependent variable representing corporate value, utilizing Tobin's Q ratio. As independent variables, ESG evaluation rating, FCF (Free Cash Flow), Foreign ownership ratio (For), the largest shareholder's share (Maj), R&D expenses (RD), ROA (Return on Assets), Debt, and SIZE are employed. Furthermore, dummy variables are employed to investigate whether ESG evaluation ratings are influenced by factors such as profitability, R&D investment, and foreign ownership ratio in relation to corporate value.

To check for multi collinearity, author conducted a correlation analysis, and the correlation coefficients among the variables were found to be low. Therefore, author confirmed that there is no issue with using all the variables mentioned below simultaneously.

Table. 1. Variables

Variables	Definition and Calculation Method
TQ	Tobin's Q [(Market value of equity + debt value) ÷ Total assets]
ESG_T ESG_E ESG_S ESG_G	ESG_T represents the overall score that encompasses all three categories: Environmental (ESG_E), Social (ESG_S), and Governance (ESG_G). ESG_E is the score specifically related to the environmental aspects of a company's ESG performance. ESG_S is the score related to the social aspects of a company's ESG performance. ESG_G is the score related to the governance aspects of a company's ESG performance. The evaluation grades are assigned as follows: A+ receives a score of 6, A receives a score of 5, B+ receives a score of 4, B receives a score of 3, C receives a score of 2, and D receives a score of 1.
FCF	Free Cash Flow (FCF ÷ Total Assets)
For	Foreign ownership ratio
M a j	the largest shareholder's share
RD	R&D expenses ÷ Sales
ROA	Return on Assets
Debt	Debt ÷ Total Assets
SIZE	log(Total Assets)
ESG_T × ROA_D	ESG_T Evaluation grade × Dummy variable 5 with a value of 1 greater than the ROA center value and 0 otherwise

ESG_T × For_D	ESG_T Evaluation grade × Dummy variable s with a value of 1 greater than the For center value and 0 otherwise
ESG_T × RD_D	ESG_T Evaluation grade × Dummy variable s with a value of 1 greater than the RD center value and 0 otherwise
ROA_D	Dummy variable s with a value of 1 greater than the ROA center value and 0 otherwise
FOR_D	Dummy variable s with a value of 1 greater than the ROA center value and 0 otherwise
RD_D	Dummy variable s with a value of 1 greater than the ROA center value and 0 otherwise
Y E A R _ D	Y e a r d u m m i e s

3.2 Results

Table 2 presents the results of the regression analysis examining the impact of ESG performance and various variables on firm value. Upon the analysis results, it was found that, except for regression model 4, ESG performance had a negative impact on firm value, but statistically was not significant except for regression model 5.

Next, we looked at the influence of other variables on firm value. It was observed that FCF (Free Cash Flow), For (Foreign Ownership Ratio), and RD (Research and Development Expense Ratio) had a statistically significant positive impact on firm value when their values were higher. On the other hand, MAJ (Ownership by the Largest Shareholder) and SIZE (Firm Size) had a statistically significant negative impact on firm value when their values were higher. Additionally, interaction variables, ESG×ROA_D, ESG×FOR_D, and ESG×RD_D, were found to have a statistically significant positive impact on firm value. This indicates that ESG ratings have a positive effect on firm value in companies with higher profitability, higher foreign ownership, and higher research and development expenditure ratios. On the other hand, in regression model 6, the relationship between dummy variables such as ROA_D, FOR_D, and RD_D with corporate value showed that only the ROA_D variable had a positive (+) impact on corporate value. This implies that a high foreign ownership ratio and a high research and development expense ratio do not directly lead to a positive (+) effect on corporate value.

Table 2. Result of regressions

	Regression 1	Regression 2	Regression 3	Regression 4	Regression 5	Regression 6
	TQ					
intercept	5.953 (5.203)***	5.123 (4.495)***	5.709 (4.875)***	6.147 (5.959)***	6.371 (4.889)***	1.701 (1.593)
ESG_T	-0.006 (-0.120)				-0.218 (-3.417)***	-0.005 (-0.092)
ESG_e		-0.082 (-1.685)*				
ESG_s			-0.028 (-0.522)			
ESG_g				0.032 (0.643)		
FCF	0.071 (1.749)***	0.073 (1.800)*	0.071 (1.746)*	0.072 (1.757)*	0.107 (2.587)***	0.135 (3.145)***

FOR	0.283 (4.766) ^{***}	0.264 (4.382) ^{***}	0.280 (4.704) ^{***}	0.278 (4.670) ^{***}		
MAJ	-0.155 (-3.690) ^{***}	-0.156 (-3.727) ^{***}	-0.154 (-3.679) ^{***}	-0.157 (-3.732) ^{***}	-0.120 (-2.655) ^{***}	-0.239 (-5.481) ^{***}
RD	0.154 (3.672) ^{***}	0.149 (3.605) ^{***}	0.155 (3.733) ^{***}	0.143 (3.241) ^{***}		
ROA	0.290 (6.352) ^{***}	0.278 (6.049) ^{***}	0.290 (6.367) ^{***}	0.289 (6.365) ^{***}		
LEV	-0.045 (1.021)	-0.041 (-0.942)	-0.045 (-1.017)	-0.044 (-0.998)	-0.071 (-1.555)	-0.153 (-3.294) ^{***}
SIZE	-0.220 (-3.312) ^{***}	-0.166 (-2.543) ^{**}	-0.204 (-3.002) ^{***}	-0.236 (-4.031) ^{***}	-0.214 (-2.897) ^{***}	0.036 (0.579)
ESG×ROA_D					0.193 (3.943) ^{***}	
ESG×FOR_D					0.402 (5.193) ^{***}	
ESG×RD_D					0.153 (3.146) ^{***}	
ROA_D						0.228 (4.884) ^{***}
FOR_D						-0.039 (-0.741)
RD_D						0.012 (0.263)
Y E A R _ D	Y e s	Y e s	Y e s	Y e s	Y e s	Y e s
Adj-R ²	0.266	0.270	0.266	0.279	0.222	0.169
F-stat	22.105 ^{***}	22.594 ^{***}	22.150 ^{***}	22.174 ^{***}	17.661 ^{***}	12.905 ^{***}

Note: ^{***}, ^{**}, ^{*} denotes significance at the 1% , 5%, 10% level. t-statistics are given in parentheses

4. Conclusion

In recent times, there has been an increasing awareness of the importance of ESG factors, and a growing trend of considering ESG performance in corporate investment decisions [10]. Due to the significance of ESG management, various related studies have been conducted. This study investigated the impact of ESG performance on firm value, focusing on IT companies listed on the Korean stock market. The reason for selecting IT companies as the research target is their crucial role in the national industry, aiming to provide insights into ESG management for these companies.

In summary, first, although some models showed significant results, it cannot be conclusively stated that ESG performance directly influences firm value. Second, profitability was found to have a positive impact on firm value, but foreign ownership and research and development investment ratios did not directly affect firm value. Third, it was observed that higher profitability, foreign ownership, and research and development investment ratios positively influenced the impact of ESG performance on firm value. These results suggest that for Korean IT companies to increase firm value, they should increase research and development investments to enhance profitability with innovative products and attract foreign investments, thus enhancing firm value through ESG performance awareness.

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