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The Effect of Greenwashing on Company Value

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ABSTRACT

Comparing manufacturing companies in LQ45, this research examines the effect of greenwashing on company value. For the past few decades, environmental issues have become a major concern for investors, the public, and other stakeholders. This has encouraged businesses to implement stricter environmental responsibility practices. To find the appropriate regression model, the study used the Hausman and LM tests. The results indicate that the random effects model is more suitable. With a coefficient of 0.0163, the regression analysis shows that greenwashing has a significant positive effect on company value. In addition, control variables such as the use of debt funds, age, and investment in fixed assets increase the value of the company, while the LIK and GROWTH variables decrease it. This finding indicates that the market tends to respond to greenwashing in company assessments, and emphasizes that businesses should optimize their investments in sustainable projects to enhance their overall value. This research enhances our understanding of the relationship between greenwashing practices and company value, as well as the effect of greenwashing practices on sustainable business strategies.

Keywords*: Greenwashing, firm value, regression*

INTRODUCTION

Environmental issues are a major concern globally, affecting land, water, and air due to economic activities. Consumer demand and consumption patterns lead to increased industrial activity, resulting in waste and negative environmental quality. Companies are adopting stricter environmental responsibility practices to address these issues. Corporate social responsibility practices have become increasingly accepted, but only a few companies are implementing responsible practices. Greenwashing is a practice where companies make false claims or exaggerate their environmental efforts to gain reputational and marketing advantages. This can lead to misleading green marketing campaigns, inaccurate CSR reports, and hiding negative environmental information. Companies may adopt this practice to enhance their image, but it can diminish credibility, integrity, and trust from consumers and stakeholders. Misled consumers may develop negative attitudes, affecting their purchasing decisions and loyalty.

Previous research on greenwashing, developed by (Testa et al., 2018), introduced a multi-dimensional framework to measure the levels of greenwashing and its impact on company performance. (Kim & Lyon, 2015) show that although greenwashing can provide short-term benefits, this practice has the potential to cause negative long-term impacts, which is also supported by (Walker & Wan, 2012) research that negatively assesses companies involved in greenwashing. (De Jong et al., 2018), in their research in the European market, revealed that this practice reduces consumer trust and causes them to switch to more environmentally friendly competitors, which impacts sales and company value. The Volkswagen case study by (Siano et al., 2017) also shows a decline in stock value

due to the loss of consumer trust. Although many studies have been conducted in developed countries, research on the impact of greenwashing in developing countries is still minimal, so this study aims to analyze the effect of greenwashing on the value of companies in the manufacturing sector listed in LQ45.

LITERATUR REVIEW

Agency Theory

According to (Ghitti et al., 2023), the agency theory is the interaction between two parties, namely the principal (owner) as the shareholder and the agent (executor) as the manager. The principal delegates decision-making responsibilities to the agent to manage the company's assets, and this is carried out on behalf of the agent. However, in their interactions, conflicts arise when the principal prioritizes short-term gains over the long-term reputation of the company, leading to information asymmetry between the two parties. The effect of differing interests means that if a company engages in greenwashing and it is exposed, the principal will lose trust in the company, which will affect the company's value. Efforts that can be made to reduce the occurrence of these conflicting interests include the company communicating with each other to align the interests of agents and principals, thereby achieving targets that are reflected in the company's value.

Greenwashing

The term "greenwashing" was coined by New York's Jay Westervelt in 1986. The concept of "greenwashing" is used to refer to companies that seemingly claim to protect the environment. According to (Yu et al., 2020), "greenwashing" can be recognized as companies that attempt to project an image of sustainable growth by disclosing a large amount of ESG data but do not consistently implement their ESG practices according to those standards. In the research, the researchers explain three types of greenwashing. The first type of greenwashing is manipulating disclosures to boost the company's valuation, the second is selective disclosure to mislead investors, and the third focuses solely on product-level greenwashing, rather than company-level greenwashing (Yu et al., 2020). The background of the greenwashing practices carried out by companies is that, first, it provides competitive advantages by shaping a positive image of the company. According (Delmas & Burbano, 2011) state that greenwashing can be used as a marketing tool to enhance the company's image as an environmentally conscious organization. For this reason, companies engage in greenwashing to build a good reputation in the eyes of the public and gain legitimacy (Walker & Wan, 2012). Secondly, to increase product sales by capitalizing on consumer demand for environmentally friendly products (Lyon & Maxwell, 2011). Thirdly, companies practice greenwashing to avoid regulatory risks and greater penalties related to environmental violations (Laufer, 2003), thus serving as an effort to comply with environmental regulations and policies without incurring significant costs. (Walker & Wan, 2012).

The motif employed by this company serves as a strategy to enhance its corporate image. Fake certification is one of the greenwashing strategies often used by companies to mislead consumers regarding the environmental claims of a product. According to (Delmas & Burbano, 2011), companies sometimes use certifications that are not credible or lack a solid foundation to promote their environmentally friendly claims. This certification can take the form of a label or symbol created by the company itself or obtained from a third party that lacks adequate credibility in providing environmental certification. (Laufer, 2003) emphasizes that the use of fake certifications is a common practice in greenwashing. Companies exploit consumers' lack of understanding about legitimate environmental certifications by relying on certifications that appear convincing but actually lack a solid

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foundation. The practice of fake certification can confuse and mislead consumers, which is very detrimental and can undermine trust in companies' environmental claims.

The use of fake certifications in this greenwashing practice has a negative effect on the company's value. Research (Delmas & Burbano, 2011) states that if greenwashing practices, including fake certifications, are revealed, it can lead to a loss of stakeholder trust and damage the company's reputation, ultimately resulting in a decrease in company value due to reduced consumer loyalty and investor appeal. In line with this, (Parguel et al., 2011) reveal that investors tend to penalize companies involved in greenwashing, including the use of fake certifications, which is reflected in a drop in stock prices and company valuations after such practices are exposed. Therefore, the strategy being implemented will threaten the value and sustainability of the company in the long term.

The Effect of Greenwashing on Company Value

The behavior of greenwashing can have a negative effect on a company's value because it can diminish stakeholder trust, thereby affecting reputational risk. Research conducted by (Walker & Wan, 2012) found that companies engaged in greenwashing tend to have poorer stock market performance compared to companies that do not engage in greenwashing. This indicates that greenwashing practices can influence investor perceptions of a company, thereby negatively affecting the company's value. In addition, the research conducted by (Marquis et al., 2016) explains the importance of transparency in corporate environmental disclosures. The authors found that companies that are not transparent in their environmental disclosures tend to be penalized by the market, which decreases the company's value and affects investor confidence.

In addition, another study conducted (Du, 2015) analyzes the effect of greenwashing on consumer perception and the brand value of companies. This research indicates that greenwashing can diminish consumer perception of a company's brand and ultimately affect the overall value of the company. (Guenster et al., 2011) shows that companies engaged in greenwashing have worse stock performance compared to companies that genuinely implement environmentally friendly practices. Similarly, research (Semenova & Hassel, 2015) reveals that greenwashing practices negatively effect investors' risk assessment of companies, which in turn can lower the company's value. However, some other studies found different results. For example, a study (Berrone et al., 2007) indicates that greenwashing can increase a company's value in the short term, but in the long run, its negative effect will be more significant. Based on the research that has been conducted, it supports the disclosure that greenwashing has a negative effect on company value, particularly in the manufacturing sector. Therefore, the hypothesis that will be used in this research is as follows:

H1: Greenwashing negatively affects company value

METHOD

The hypothesis to be tested in this research uses data from companies listed in LQ45, taking into account the availability of data. The period that will be covered in this research is from 2013 to 2022. The secondary data we used comes from S&P Capital IQ and the Bloomberg website. This research uses 3 variables consisting of a dependent variable, independent variables, and control variables. The dependent variable of this study is the company's value. The Tobin Q ratio is one of the ratios that measure a company's value based on the value of tangible and intangible assets, taking into account the size of the market value. The increase in stock market value depends on the market conditions; if the market conditions are good, then stock prices will rise. (Hadqia et al., 2021). This can be interpreted as the presence of positive growth potential for the company. According to (Dzahabiyya et al., 2020), Tobin's Q ratio greater than one indicates that the market value of a company

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exceeds the replacement cost of its assets, suggesting the presence of profitable investment opportunities. Conversely, a Tobin's Q ratio less than one signifies that the replacement cost of assets is greater than their market value, meaning the company is likely to experience a decline in value. The effect of greenwashing on company value is analyzed by examining company performance based on market value using Tobin's Q. Company value is formulated using market-based ratios (Brainard & Tobin, 1968), namely:

$$\text{Tobin's Q} = \frac{\text{Total Market Value} + \text{Total Book Value of Liabilities}}{\text{Total Book Value of Assets}}$$

Research conducted by (P. Chen & Dagestani, 2023) explains that there are three (3) reasons for using market value in assessing company value. First, market-based company performance serves as a good measure; the disclosure of greenwashing affects shareholder concerns, which are directly reflected in stock changes because market value looks ahead based on direct changes in stock prices. Second, market-based company performance evaluation is more objective. Lastly, market-based company performance is a long-term indicator that helps us examine the direct effect of greenwashing behavior (Fang et al., 2008).

The disclosure of Tobin's Q ratio has a positive relationship with company performance, influencing the value of the company. This means that a higher Tobin's Q ratio correlates with a higher company value. Conversely, some other studies have found different results, where (Zafar et al., 2021) concluded that the Tobin's Q ratio does not have a significant effect on the value of manufacturing companies in Pakistan. This is interpreted as the Tobin's Q ratio having no significant effect on the value of manufacturing companies in Pakistan, so the level of the Tobin's Q ratio does not have a tangible effect on the value of manufacturing firms. The independent variable in this study is the greenwashing score. The definition of the greenwashing score in CSR (GW) refers to the gap between the ESG disclosure score and the actual ESG performance score (Zhang, 2022). This means that the more significant the gap, the worse the greenwashing in CSR (P. Chen & Dagestani, 2023).

$$\text{Greenwahsing score}_{i,t} = \left(\frac{\text{ESGdis,i,t} - \text{ESGdis}}{\sigma\text{dis}}\right) - \left(\frac{\text{ESGreal,i,t} - \text{ESGreal}}{\sigma\text{real}}\right)$$

It is known that ESGdis,i,t is the ESG disclosure score of company i in year t, while ESGreal,i,t is the actual ESG performance score of company i in year t. Additionally, in this calculation, there is ESGdis which takes into account the average ESG disclosure score of all companies and ESGreal for the calculation of the average actual ESG performance score of all companies. Then, σdis and σreal are the standard deviations of both, with σdis representing the standard deviation of the ESG disclosure scores and σreal representing the standard deviation of the actual ESG performance scores. In addition, other control variables in this study that affect company value are SIZE (company size), AGE (company age), LEV (leverage), GROWTH (growth), and PPE (Property, Plant, and Equipment), which were obtained manually from the annual financial statements.
Hypothesis model to explore the effect of greenwashing on company value as follows:

$$FVi,t = \alpha 0 + \beta 0 GWi,t + \sum_{i=1}^{5} \gamma i \text{ control} + \varepsilon i,t$$

$$FVi,t = \alpha 0 + \beta 0 GWi,t + \gamma 1 SIZEi,t + \gamma 2 AGEi,t + \gamma 3 LEVi,t + \gamma 4 GROWTH\ i,t + \gamma 5\ PPEi,t + + \varepsilon i,t$$

Where FV is the company's value as the dependent variable. The independent variable is GW, which is greenwashing that reflects the significant gap between ESG disclosures and

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the actual ESG performance of the company. Based on the literature (Zhang, 2022), the control variables in research related to company value include company size measured by the natural logarithm of total employees (Size), company age (Age), leverage measured by the debt-to-total-assets ratio (LEV), company growth measured by the operational revenue growth rate affecting company value (Growth), and tangible assets owned and used by a company in its operational activities for more than one period (PPE). Through regression analysis in this study, it can be identified whether there is a significant relationship between greenwashing behavior and company value.

RESULT

The number of companies used in this study is 31, with a total of 310 observations over 10 years from 2013 to 2022. However, not all 31 companies have greenwashing data for the entire 10 years due to certain periods when companies were not required to disclose their ESG data, resulting in 87 items. Therefore, the total observations overall amount to 223 items.

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
TOBINSQ	223	.512	.244	.086	1.129
GWSCORE	223	1.427	1.045	-2.183	3.977
AGE	223	3.878	.655	2.398	5.106
SIZE	223	9.189	1.279	6.337	11.958
GROWTH	223	17.27	.942	15.045	19.524
LEV	223	.188	.172	.001	.8
LIK	223	1.962	1.421	.234	8.007
PPE	223	16.456	1.363	12.207	19.078

Source: Data Processing Results by the Author

The study reveals a tendency for companies to engage in greenwashing, with a GWSCORE of 1.427 (14.27%). The TOBINSQ value is below 1, indicating less efficient asset use. The average age, size, growth rate, leverage, liquidity, and fixed assets of the companies vary. The average leverage is 0.188, indicating low debt levels, while the liquidity value is 1.962. Most companies have investments in fixed assets, indicating differences in attitudes towards greenwashing. The sample variation reveals varying attitudes towards greenwashing, influenced by fixed assets.

The selection of the model in the research was conducted using the Hausman Test and the Lagrange Multiplier (LM) test to analyze the obtained data. The results of the Hausman Test yielded a probability of 0.0000, indicating that this research employs the fixed effect method, as the probability value is less than 0.05. Subsequently, the LM test was performed to determine the appropriate model between the common effect model or the random effect model. Based on the data processing results, the random effect model was chosen with a probability value of 0.0000, which is also less than 0.05. The model selection that has been carried out requires the reliability of the regression model to be tested with classical assumption tests. The normality test shows that the Prob > z result is 0.00000 or less than 0.05. This result shows that the data distribution does not meet the assumption of normality. If the results of the normality test do not satisfy the assumption of normality, then the Central Limit Theorem can be applied. This theory explains that if the data exceeds 30, it can be considered that the data is normally distributed. (Gujarati & Porter, 2015).

The results of the heteroskedasticity test yielded a Prob>Chi2 value of 0.9721. This value is greater than 0.05, indicating that the regression analysis does not suggest any issues with heteroskedasticity. The autocorrelation test using Durbin-Watson and Breusch-Godfrey

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produced a Prob > F value of 0.0000, meaning this probability is less than 0.05. This indicates that the regression analysis results show the presence of autocorrelation. Then the F test table with Driscoll-Kraay shows that the Prop > F value is 0.0000 or less than 0.05, meaning that all independent variables and control variables have a significant effect on the value of the company.

DISSCUSION

After selecting the model and assessing the reliability of the research model, regression analysis was conducted to determine the relationship between the dependent variable, independent variables, and control variables. The results of the regression from this study are as follows:

Results of the Research Model Regression

	(1)
	TOBINSQ
GWSCORE	.0163**
	(.0076)
AGE	.0782
	(.0884)
SIZE	.0479
	(.0477)
GROWTH	-.1474***
	(.0488)
LEV	.5245***
	(.0944)
LIK	-.0269***
	(.0102)
PPE	.0025
	(.0126)
_cons	2.2024***
	(.7425)
Observations	223
Prob > F within R-squared F(7, 222)	0.0000 0.3413 8.75
Standard errors are in parentheses	
**** p<.01, ** p<.05, * p<.1*	

Based on Table 4.5, it shows that greenwashing has a positive effect on company value, with a coefficient for the greenwashing score of 0.0163 and a p-value of 0. This indicates that an increase of one unit in the greenwashing index results in an increase in company value of 0.0163, suggesting that the higher the level of greenwashing practiced by the company, the higher the company value tends to be. In addition to the greenwashing score, there are variables LIK and GROWTH that have a negative effect, indicating that the company has not yet optimized investment funds for sustainable projects. On the other hand, AGE, SIZE, LEVERAGE, and PPE have a positive influence, indicating that the greater the age, size, use of debt financing by the company, and investment in fixed assets, the more it will correlate with the company's value. Therefore, it can be concluded that the market influences greenwashing actions in assessing companies.

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Results of the Regression Model for the Manufacturing Sector Research

	(1)
	TOBINSQ
GWSCORE	.0137*
	(.0075)
AGE	-.2823
	(.2771)
SIZE	-.0552
	(.0657)
GROWTH	-.1196*
	(.0662)
LEV	.6668***
	(.0953)
LIK	-.0122
	(.0164)
PPE	-.0915
	(.0578)
_cons	5.5042***
	(2.0418)
Observations	69
Prob > F within R-squared F(7, 222)	0.0000 0.5597 22.70
Standard errors are in parentheses	
**** p<.01, ** p<.05, * p<.1*	

Then, when compared to the regression results in the manufacturing sector, Table 4.4 shows that the effect of GWSCORE on firm value in the manufacturing sector has a positive influence with a coefficient result of 0.0137. This means that the higher the greenwashing conducted by the company, the higher the firm value will be. Additionally, the LEV variable also has a positive influence, indicating that companies with a high level of debt have a high firm value, while the AGE, SIZE, GROWTH, LIK, and PPE variables have a negative influence on firm value.

Previous research conducted by Chen and Dagestani in 2023 explains that greenwashing has a positive effect on company value. The manufacturing sector sampled in this study produced a company value of 2.81 (with a range of 0.745-17.729, and a standard deviation of 1.320), concluding that the company value is at a low level. The average greenwashing result obtained in this research is 0.004 (with a range of -2.692 – 3.070, a standard deviation of 1.317), which concludes that greenwashing practices are often carried out by companies in China. This indicates that this behavior has become a negative attitude exhibited by the company. In addition, the model determination conducted in previous research used a fixed effects model with the Hausman Test (199.64, $p < 0.01$). Descriptive statistical analysis is reinforced by the regression results obtained, which indicate that greenwashing in the study has a positive effect on company value. The result of the greenwashing variable is 0.050, meaning that each increase in greenwashing behavior correlates with an increase in company value. In addition, this positive correlation may indicate that the market responds well to the expressed efforts of corporate social responsibility, even though the actions taken are not

entirely genuine.

The implications of the explanations from previous research that has been conducted support the notion that the influence of greenwashing has a positive effect on company value. Based on this, it can be indicated that the efforts made by the company in claiming to enhance its environmental image will affect the company's value, which will subsequently correlate with the company's attitude, namely by adopting a cautious approach in assessing the environmental claims made by the company. This is because it could damage the company's reputation in the long run.

CONCLUSION

According to the study's findings, there is a relationship between greenwashing and firm value. The regression analysis results show that an increase in the greenwashing score correlates with an increase in firm value. A one-unit increase in the greenwashing index results in an increase in firm value of 0.0163. This indicates that companies involved in greenwashing experience profits. Control variables affect firm value in different ways. Larger and older firms and those with higher leverage and more tangible assets tend to have higher firm values. This shows that greenwashing can increase firm value, and the fundamental characteristics of the firm play an important role in determining firm value. Then the results of this regression are strengthened from the manufacturing sector; the influence of greenwashing has a positive impact on firm value with a coefficient of 0.0137.

The implications of this study have significant implications for companies and investors. For companies, this study suggests the need to be cautious in using greenwashing as a strategy, given the potential for long-term reputational damage and the importance of aligning environmental claims with actual performance. For investors, this study illustrates the importance of scrutinizing environmental claims and considering the underlying characteristics of a company when assessing its value. The agency theory perspective places greater emphasis on the potential conflict between short-term profits and long-term reputation, suggesting the need to align multiple stakeholders for sustainable value creation.

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