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ROAD TO GLORY OR HIGHWAY TO HELL? UNCOVERING THE CONSEQUENCES OF CORPORATE GREENWASHING IN LATIN AMERICA

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1 INTRODUCTION

Climate change has forced our society to move more quickly towards sustainable development (Khatri & Kjærland, 2023). In this vein, companies have addressed environmental practices in their strategies, in order to reduce their effects on the environment. Practices such as aligning corporate objectives with the Sustainable Development Goals (SDGs), environmental, social and governance (ESG) performance and disclosing sustainability information following the guidelines of the Global Reporting Initiative (GRI) are some examples of actions that demonstrate corporate social responsibility (Hassan et al., 2024).

However, the disclosure of sustainability information is not always done ethically by companies. In other words, greenwashing practices occur when there is a discrepancy between green intentions and green outcomes (Ghitti et al., 2023). Greenwashing is a practice of disclosing selective environmental information, omitting information that could be seen as negative by society (Marquis et al., 2016). According to Liu et al. (2023), greenwashing can be seen as an exaggerated communication strategy, in which the company creates a positive green image for stakeholders without fulfilling green promises.

Given the importance of the topic for academics and practitioners, research on greenwashing has been developed around the world. The study by Lee and Raschke (2023) found that greenwashing practices are not associated with financial performance. On the other hand, Li et al. (2023) found that greenwashing practices are associated with greater corporate financial performance in the Chinese context. Gomes et al. (2024) found that in more religious American states, companies tend to have less greenwashing behavior.

Although these studies help to understand factors associated with greenwashing practices, Dorfleitner and Utz (2023) states that the majority of studies analyze the antecedents of greenwashing, with few studies on the consequences of corporate greenwashing. The systematic literature review by Liu et al. (2023) found only nine papers in the literature on the consequences of greenwashing and most of them investigate financial performance as a consequence, making it necessary to include other organizational factors, such as corporate reputation (Li et al., 2023).

Additionally, research on greenwashing has mostly been carried out in developed contexts or in large emerging economies, such as China and India. Liu et al. (2023) highlight that investigating how greenwashing practices affect market performance, innovation and reputation is particularly important in emerging markets, as environmental rules are weaker in these markets. Lee and Raschke (2023) suggest that studies analyze greenwashing through longitudinal data, as most studies collect data from a single moment and relate greenwashing to consumer behavior.

Therefore, given the limitations of previous studies, our study has the following research question: What are the consequences of corporate greenwashing? Our purpose is to investigate the effect of corporate greenwashing on the reputation, innovation and market value of companies in Latin America. The countries in this region present particular characteristics in their institutional environment, sharing a common colonial past. These countries have high levels of corruption, weak national governance and, in cultural terms, religion has a strong influence on people. Furthermore, the development of corporate social responsibility practices is at an early stage (Borges et al., 2022).

To achieve our research purpose, we examined the greenwashing of 428 companies based in 14 Latin American countries and selected three organizational factors: corporate reputation, innovation capacity and market value. To analyze the collected data, we combined

a symmetric technique (panel data analysis) with an asymmetric technique (fuzzy set qualitative comparative analysis) to give greater robustness to the findings. Our results showed that greenwashing practices can affect a company's reputation, innovation and market value and have important implications for the literature and for managers.

The rest of the paper is organized as follows. Section 2 reviews the definition of greenwashing and related studies, as well as presents the three research hypotheses. Section 3 describes our research design, presenting the sample selection, measurement of variables and data analysis. Section 4 presents the results and Section 5 discusses the research findings, detailing the theoretical and practical implications. Finally, Section 6 concludes our paper.

2 BACKGROUND, RELATED STUDIES AND HYPOTHESIS

2.1 Greenwashing: What do we already know?

In the 1980s, the term "greenwashing" emerged and became widely acknowledged for delineating the phenomenon of asserting misleading or overstated assertions regarding sustainability with the aim of capturing a larger market presence (Dahl, 2010). Yu et al. (2020) defined greenwashing as a misleading disclosure in the three dimensions of ESG holistically.

The academic interest in greenwashing research is currently experiencing a noticeable upward trend, especially since 2017 (Ramalho et al., 2024). Despite the existence of several investigations into greenwashing, the analysis of the consequences of corporate greenwashing is less common.

Ioannou et al. (2023) analyzed U.S. companies during the period 2008–2016 and demonstrated that perceived greenwashing negatively affects customer satisfaction. They also found that a firm’s capability reputation (its ability to produce high-quality and/or innovative products) mitigates the negative impact of greenwashing on customer satisfaction. Ghitti et al. (2023) examined the relationship between the degree of greenwashing and the market value of firms from 500 largest U.S. public companies. The results shown that greenwashing negatively affects firm value. Therefore, the authors inferred that a failure to demonstrate environmental performance in practice is recognized by financial markets.

However, the studies above are limited to the USA, thereby reinforcing the predominance of studies on greenwashing in nations with higher socioeconomic development (Wang et al., 2023). Additionally, in the study of Ioannou et al. (2023), the consequences of greenwashing primarily concerned the consumer and their satisfaction, while the impacts on the firm itself, specifically, were disregarded.

Li et al. (2023) found that greenwashing has a positive effect on corporate financial performance in Chinese-listed firms from 2013 to 2017. However, this effect is mitigated by stringent environmental regulations and reversed when there is low media favorability. In the same country, Chen and Dagestani (2023) selected manufacturing companies listed in China from 2010 to 2019 to explore the relationship between greenwashing practices and firm value. The results indicated that greenwashing had a positive effect on firm value. Female directors, age diversity, educational background, and shareholder aggregation appear to inhibit such practices, while local directors and political connections appear to promote them. Furthermore, Hu et al. (2023) conducted a study with listed companies in China between 2008 and 2020. The authors found that greenwashing had a negative impact on innovation, specifically in green innovation, and enterprises with more greenwashing tend to have a weaker response to ISO14001 certification.

Despite the studies being conducted in an emerging country like China, the findings' generalizability is constrained because no other regions were included to consider the institutional differences between China and other developing countries.

In their research of Amer and Ezz (2023), using a questionnaire survey from 336 customers of green household appliances in Egypt, the authors found that greenwashing had a negative impact on green brand equity, brand reputation, and brand credibility. Additionally, green brand equity played a mediating role in the relationship between greenwashing and brand reputation. Similarly, Santos et al. (2024) investigated the effects of greenwashing on corporate reputation and brand hate. The study utilized a cross-sectional survey with primary data from 420 Portuguese consumers, revealing that greenwashing had a negative impact on corporate reputation and a direct positive effect on brand hate. In conclusion, the authors posited that reducing greenwashing practices can improve consumer perceptions of corporate environmental performance, mitigate green perceived risk, and ultimately enhance corporate reputation.

However, the studies above used a questionnaire survey to test the hypotheses, relying only on cross-sectional data, which makes it difficult to see how the variables changed over time. Given the limitations of previous studies, this research intends to advance in the literature by conducting longitudinal data analysis, focusing on emerging markets through the analysis of Latin American countries, with a particular emphasis on the recent period between 2018 and 2022. Moreover, this study incorporates three organizational factors that have been separately examined in other researches: corporate reputation, innovation capacity, and market value.

2.2 Hypothesis development

The concept of a corporate reputation can be understood as the collective, stakeholder group-specific assessment of an organization's capacity to create value based upon its inherent characteristics and qualities (Ioannou et al., 2023). As Kim et al. (2018) assert, a firm's CSR contributes to the development of a positive reputation and image. Also, the authors complement that such favorable image and reputation will create good relationships with a diverse set of stakeholders and allow the firm to gain their support.

According to Ioannou et al. (2023), customers are attentive to whether the company is acting with integrity and how trustworthy it is in terms of implementing its declared green policies and commitments. In this context, unethical behaviors can lead to serious reputational damage and jeopardize credibility (Nygaard & Silkoset, 2023; Siano et al., 2017). When a company engages in greenwashing, it violates consumers' expectations by intentionally misleading them about their environmental practices or the benefits of their products/services (Santos et al., 2024). Greenwashing practices are a breach of trust in the consumer-brand relationship (Ioannou et al., 2023), undermine corporate reputation and destroy relationships with various stakeholders (Kim et al., 2018).

Some studies provide evidence that greenwashing has a detrimental effect on corporate reputation in Portugal (Santos et al., 2024), USA (Ioannou et al., 2023) and Egypt (Amer & Ezz, 2023). Furthermore, in Ghana, Ibrahim Nnindini and Dankwah (2024) have shown that consumers express the strongest form of anger and revulsion for brands that engage in greenwashing, potentially leading to negative perceptions of corporate reputation. From the arguments exposed, we proceed to test the following hypothesis:

H1: Corporate greenwashing negatively affects corporate reputation.

The pursuit of business value has led to increased demands for sustainable long-term growth, which has made investments in research and development (R&D) and the implementation of new innovation processes quite a necessity (Chkir et al., 2021). Firms must become more innovative to maintain or enhance their competitiveness while fulfilling their various CSR obligations for multiple stakeholders (Ueki et al., 2016). In this vein, (Chkir et al.,

2021) found a positive effect of CSR on innovation, yet the influence is less pronounced in emerging countries.

Furthermore, according to Broadstock et al. (2020), the involvement of firms in ESG activities serves to enhance their capacity for innovation. High ESG performance can improve the innovation level of enterprises by alleviating financing constraints and reducing agency costs (Tang, 2022).Zhang et al. (2024) defend that the better the ESG performance, the more robust the firm's innovation capacity. Also, Chen et al. (2023) found that ESG disclosure can promote corporate innovation by reducing corporate financing constraints.

However, pursuing innovation is a strategy that generates delayed benefits (Chkir et al., 2021). Companies involved in greenwashing are more concerned with short-term results, so they prefer to use greenwashing due to lower implementation costs (Yildirim, 2023). In this context, firms may resort to greenwashing as a means to maximize profits and reap the benefits associated with a good environmental reputation. The greater the extent of greenwashing by a company, the lower the drive for enhancing competitiveness innovation, according to research by Hu et al. (2023). Given these considerations, the subsequent hypothesis is proposed:

H2: Corporate greenwashing negatively affects innovation capacity.

A company's sustainable practices can increase firm reputation and stakeholder support, leading to positive consumer orientation and purchase intentions (Jamali & Karam, 2018). and contributing to firm value and shareholder wealth (Kim et al., 2018). Similarly, Qureshi et al. (2021) defend that sustained higher commitment to the environmental pillar, consistent socially responsible behavior, and rationalized governance mechanisms of the firms are perceived as value-adding by market players.

However, greenwashing practices affect trust between companies and investors (Ghitti et al., 2023). Consequently, stakeholders may undertake actions against the company in an attempt to penalize this behavior. For example, customers may no longer buy the company's products, suppliers may no longer supply their products, governments may impose fines and penalties, and shareholders may sell their stocks due to the loss of trust (Nirino et al., 2021). In such instances, when a company engages in socially irresponsible or suspicious social behavior, it is reasonable to assume that ESG controversies will decrease firm value (Aouadi & Marsat, 2018).

The literature reveals a lack of consensus regarding the association between greenwashing and firm value. Ghitti et al. (2023) found that greenwashing has an impact on firm value on USA companies, which suggests that investors penalize companies active in greenwashing. On the other hand, the research of Chen and Dagestani (2023) on the Chinese market shows that greenwashing practices can significantly increase firm value. Given these considerations, the subsequent hypothesis is proposed:

H3: Corporate greenwashing negatively affects market value.

The linkage between these three consequences and corporate greenwashing establishes the theoretical foundation of this study, as illustrated in Figure 1.

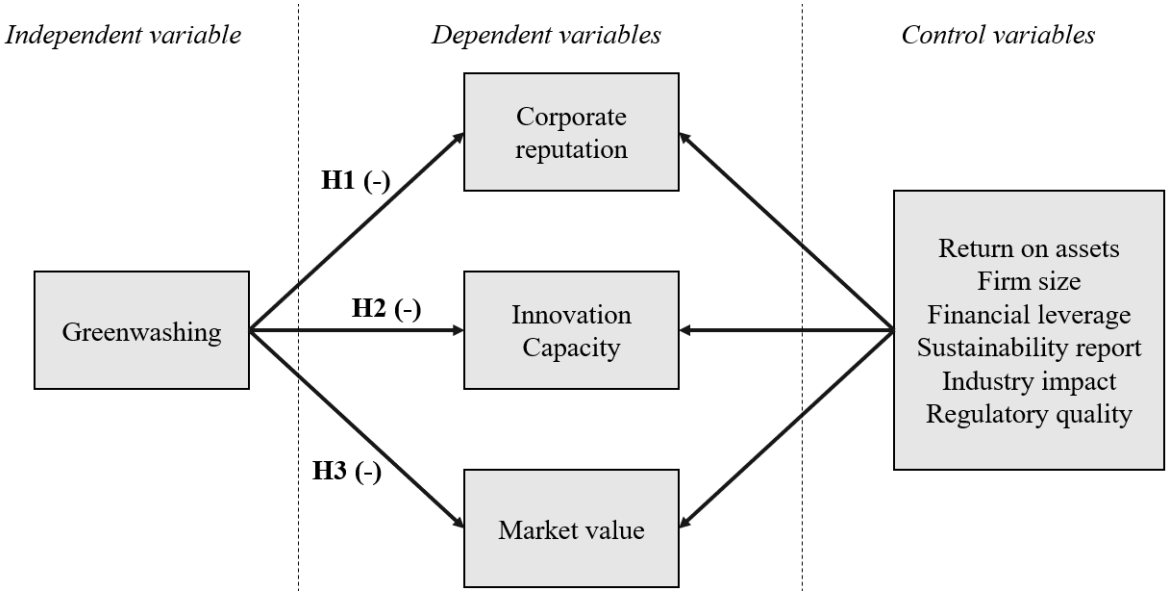

Figure 1. Research framework.
Source: Authors own creation.

3 METHODS

3.1 Sample selection

Our population was equivalent to all companies listed in the Refinitiv Eikon database and based in Latin America, which corresponds to 1879 companies. However, 1451 companies did not have ESG and ESG controversies information available, which limited our sample to 428 companies. We extract data from companies in Latin America between 2018 and 2022. Due to the increase in ESG practices in recent years, data sampling spanned the 2018–2022 period. 2022 was the year with the most recent information when we collected the data.

Table 1 summarizes the distribution of the sample by sector and country. As can be seen, the country with the greatest representation in the sample is Brazil with 137 companies, followed by Mexico (102 companies) and Argentina (57 companies). On the other hand, some countries only have one company in the sample, for example Bahamas, Barbados, Costa Rica and Virgin Islands. The sector with the largest number of companies is the financial sector (80 companies), followed by the industrial and consumer discretionary sectors, which have 59 companies. In contrast, the technology sector has only 8 companies in our sample.

Table I. Sample distribution.

Country/Sector	CD	CS	COM	ENE	FIN	HCA	IND	MAT	RES	TEC	UTI	Total
Argentina	5	10	3	5	9	1	7	6	2	0	9	57
Bahamas	1	0	0	0	0	0	0	0	0	0	0	1
Barbados	0	0	0	0	1	0	0	0	0	0	0	1
Brazil	32	14	5	6	18	7	18	12	4	3	18	137
Cayman Islands	0	1	0	0	4	2	1	0	0	4	2	14
Chile	5	6	2	1	8	0	9	3	3	1	8	46
Colombia	1	2	2	2	8	0	4	2	0	0	4	25
Costa Rica	0	0	0	0	0	1	0	0	0	0	0	1
Mexico	13	17	10	1	19	2	16	15	9	0	0	102
Panama	0	0	0	0	1	0	1	0	0	0	0	2

Peru	0	6	0	0	8	0	3	13	1	0	4	35
Puerto Rico	0	0	0	0	4	0	0	0	0	0	0	4
Uruguay	2	0	0	0	0	0	0	0	0	0	0	2
Virgin Islands	0	0	0	0	0	0	0	1	0	0	0	1
Total	59	56	22	15	80	13	59	52	19	8	45	428

Note: CD: Consumer Discretionary. CS: Consumer Staples. COM: Communication Services. ENE: Energy. FIN: Financials. HCA: Health Care. IND: Industrials. MAT: Materials. RES: Real Estate. TEC: Technology. UTI: Utilities.

Source: Authors own creation.

3.2 Variables measurement

Table II presents the definition and measurement of all variables. The variables used were collected from the Refinitiv Eikon database, except for the regulatory quality variable, which was extracted from the World Bank database.

In this study, we have three dependent variables: corporate reputation, innovation capacity and market value. Corporate reputation is defined by Refinitiv Eikon as a company's ability to generate trust and loyalty with its employees, customers and society, through the use of best management practices, ranging from 0 (lowest reputation) to 100 (highest reputation) (Quintana-García et al., 2021). In turn, innovation capacity is measured by the percentage of expenditure on research and development in sales. Some companies disclose this percentage and others do not, so companies that do disclose receive 1 and 0 otherwise (Ullah et al., 2022). Finally, market value reflects the current price that investors are willing to pay for a given company's asset (Bodhanwala & Bodhanwala, 2023).

As shown in Table II, previous studies have used these same measurements for the variables employed in econometric models.

Table II. Definitions and measurements of study variables.

Variable (Acronym)	Description	Authors
Corporate reputation (REPUT)	It is measured through the company's social pillar score in the Refinitiv Eikon database. This score is based on a total of 63 indicators related to workforce, human rights, community and product responsibility and reflects the company's reputation and the health of its license to operate. This ranges from 0 (lowest reputation) to 100 (highest reputation).	Quintana-García, Benavides-Chicon and Marchante-Lara (2021)
Innovation capacity (INNOV)	It is measured through percentage of research & development expenditure to sales. 1 = if the company reported its investment in R&D, 0 = otherwise.	Ullah et al. (2022)
Market value (MKTVL)	It is the share price multiplied by the number of ordinary shares in issue.	Bodhanwala and Bodhanwala (2023)
Corporate Greenwashing (GREENW)	It is measured by subtracting ESG controversies (it measures a company's exposure to environmental, social and governance controversies and negative events reflected in global media) from ESG performance (it is an overall company score based on the self-reported information in the environmental, social and corporate governance pillars).	Ghitti, Gianfrate and Palma (2023)
Return on assets (ROA)	It is measured using the ratio between net income and total assets.	Ghardallou (2023)
Firm size (FSIZE)	It is measured by the natural log of the total assets.	Ghardallou (2023)

Financial leverage (LEVER)	It is measured using the ratio between total debt and total assets.	Ghardallou (2023)
Sustainability report (SUSREP)	It is measured by a binary variable, in which 1 = if the company has a sustainability report, 0 = otherwise.	Khatri and Kjærland (2023)
Industry impact (INDUS)	This variable takes the value 1 if the company operates in a sector with a strong and direct environmental impact and, 0 otherwise.	Hassan, Romilly and Khadaroo (2024)
Regulatory quality (REGQ)	It reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development, ranging from -2.5 (lowest regulatory quality) to +2.5 (highest regulatory quality).	Hassan, Romilly and Khadaroo (2024)

Source: Authors own creation.

Our independent variable is corporate greenwashing. To calculate this variable, we followed the study by Ghitti et al. (2023), which defines greenwashing practices as the gap between symbolic and substantive corporate actions. The work by Ghitti et al. (2023) measures greenwashing by subtracting ESG controversies from ESG performance. According to Refinitiv Eikon database, ESG performance is an overall company score based on the self-reported information in the environmental, social and corporate governance pillars and ESG controversies measures a company's exposure to environmental, social and governance controversies and negative events reflected in global media.

We control for some specific factors at the company level and at the institutional level that can modify the dependent variables. Variables such as ROA, FSIZE and LEVER reflect the company's financial performance (Ghardallou, 2023). Companies with greater financial performance may have a greater reputation because large companies tend to have more resources to invest in social and environmental actions (Gomez-Trujillo et al., 2020). Furthermore, larger companies tend to have greater dialogue with stakeholders, invest more in environmental innovations and have higher profits, which increases the price that investors are willing to pay for the company (Heubeck & Meckl, 2024).

Existing literature also suggests that factors such as having a sustainability report and operating in certain industry sectors can affect companies' levels of reputation (Sánchez-Torné et al., 2020), innovation (Asadi et al., 2020) and market value (Ghitti et al., 2023). Finally, previous studies have highlighted that the institutional level can affect the reputation (Liu et al., 2024), innovation (Zhang et al., 2023) and market value of companies (DasGupta & Roy, 2023). In this vein, we use the regulatory quality variable to represent the institutional level, since our sample has companies from 14 countries.

3.3 Data analysis

The data was analyzed combining different techniques. In terms of symmetric analysis, we used panel data analysis with fixed effects, which ran in STATA software, version 14. For asymmetric analysis, we used the fuzzy set Qualitative Comparative Analysis (fsQCA) technique in fsQCA 3.2 software.

In order to investigate the effect of corporate greenwashing on corporate reputation, innovation capacity and market value, we first employ unbalanced panel data. Our panel is unbalanced because some companies do not have five years of information. Panel data analysis is suitable because its dynamic nature captures endogeneity biases. Furthermore, this type of statistics can be used in research with company data collected in different years (Hair Jr et al., 2019). Our panel regression models are as follows:

$$Corporate\ reputation_{it} = \beta_{it} + \beta_1 Greenw_{it} + Roa_{it} + Fsize_{it} + Lever_{it} + Susrep_{it} + Indus_{it} + Regqua_{it} + \theta_i + \varepsilon_{it}$$

$$Innovation\ capacity_{it} = \beta_{it} + \beta_1 Greenw_{it} + Roa_{it} + Fsize_{it} + Lever_{it} + Susrep_{it} + Indus_{it} + Regqua_{it} + \theta_i + \varepsilon_{it}$$

$$Market\ value_{it} = \beta_{it} + \beta_1 Greenw_{it} + Roa_{it} + Fsize_{it} + Lever_{it} + Susrep_{it} + Indus_{it} + Regqua_{it} + \theta_i + \varepsilon_{it}$$

All variables are measured for firm 'i' in year 't'. In addition to the main models, we operationalized additional tests to give more validity to the findings. We confirmed the absence of multicollinearity through the correlation matrix and the VIF (value inflation factor), as well as the results of the Breusch-pagan test indicated that the errors have constant variance (non-heteroscedastic). Furthermore, we conducted GMM (generalized method of moments) regressions in order to confirm the absence of endogenous regressions (Hair Jr et al., 2019).

For asymmetric analysis, we use qualitative comparative analysis (QCA), as it can complement traditional data analysis. The fsQCA is a new technique that uses Boolean algebra to compare present and absent conditions that provide a superior outcome. According to Pappas and Woodside (2021), QCA is suitable for a sample of more than 300 companies, which is the case in this present study. We conducted QCA following three steps: First, we normalized and calibrated all study variables, ranging from 0.05 (non-member) to 0.95 (full member). Second, we create a truth table that makes it possible to understand all possible combinations of causal conditions. Third, we simplify the multiple solutions and interpret the results.

4 RESULTS

4.1 Descriptive and bivariate analysis

Table III shows the descriptive statistics of the variables used in the econometric models. Corporate reputation has an average of 50.33, showing a wide range between the minimum value (0.24) and the maximum value (96.78). Innovation capacity has an average of 0.06, indicating that only 6% of the companies in the sample disclose their R&D expenses. The market value has an average of 9.10 with a maximum value of 10.97 and a minimum value of 4.78. Greenwashing practices have an average of -48.09, which indicates that in general companies have a higher score on ESG controversies than ESG performance.

Table III. Descriptive statistics of the variables.

Variable	Level	Mean	Standard deviation	Minimum	Maximum
Corporate reputation	Company	50.33	25.56	0.24	96.78
Innovation capacity	Company	0.06	0.25	0.00	1.00
Market value	Company	9.10	0.83	4.78	10.97
Corporate greenwashing	Company	-48.09	29.40	-99.39	87.27
Return on assets	Company	0.03	0.10	-0.82	1.41
Firm size	Company	9.52	0.73	6.17	11.72
Financial leverage	Company	0.64	0.36	0.00	5.95
Sustainability report	Company	0.74	0.43	0.00	1.00
Industry impact	Company	0.42	0.49	0.00	1.00
Regulatory quality	Institutional	0.07	0.50	-0.70	1.40

Source: Authors own creation.

Looking at the control variables, ROA has an average of 0.03 and firm size has an average of 9.52, ranging from 6.17 (minimum value) to 11.72 (maximum value). Financial leverage has an average of 0.64. Table III also shows that 74% of the companies in the sample have a sustainability report and 42% of the sample operates in environmentally sensitive sectors. The institutional quality of countries has an average of 0.07, ranging from -0.70, worst regulatory quality (Argentina in 2022), to 1.40, best regulatory quality (Virgin Islands in 2022).

Table IV presents our correlation matrix. The data shows that greenwashing practices have a moderate correlation with the publication of a sustainability report and the size of the company. The dependent variables have low correlation with the control variables, which indicates the absence of multicollinearity.

Table IV. Correlation matrix.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) REPUT	1.00								
(2) INNOV	0.07***	1.00							
(3) MKTVL	0.41***	0.09***	1.00						
(4) GREENW	0.76***	0.14***	0.41***	1.00					
(5) ROA	0.04	-0.05	0.29***	0.00	1.00				
(6) FSIZE	0.47***	0.00	0.70***	0.49***	0.06***	1.00			
(7) LEVER	0.03	-0.02	-0.18***	0.07***	-0.12*	0.11***	1.00		
(8) SUSREP	0.66***	0.02	0.31***	0.51***	0.03	0.38***	-0.00	1.00	
(9) INDUS	0.00	0.02	0.02	0.04*	0.08***	-0.09***	-0.14***	0.06**	1.00
(10) REGQ	0.04	0.05	0.07**	-0.00	-0.00	0.14***	-0.00	0.03	0.00

Source: Authors own creation.

4.2 Symmetric analysis: panel data

Table V highlights the results of panel data regressions. Models 1, 2 and 3 present the results for the 428 companies in the sample. Models 4, 5 and 6 present the results when companies in the financial sector were excluded. We filtered the sample because the financial sector may follow different legislation and this could bias the results (Khatri & Kjærland, 2023).

Table V. Panel data with fixed effects.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	D.V. reput	D.V. innov	D.V. mktvl	D.V. reput	D.V. innov	D.V. mktvl
GREENW	0.48***	0.00***	0.00***	0.49***	0.00***	0.00***
ROA	6.80**	-0.11**	1.67***	6.76**	-0.16***	1.54***
FSIZE	2.09***	-0.02***	0.75***	0.47	0.00	0.80***
LEVER	-0.82	-0.02*	-0.54***	-1.56	-0.00	-0.49***
SUSREP	20.02***	-0.03**	0.00	19.88***	-0.05*	-0.02
INDUS	-1.72***	0.00	0.04**	-0.44	-0.01	0.01
REGQ	2.07***	0.03***	-0.04*	2.93***	0.03***	-0.03
Observations	1774	1774	1761	1455	1455	1444
F (prob > F)	558.25***	9.97***	403.78***	421.45***	9.33***	329.42***
R^2 overall	0.6902	0.3078	0.6176	0.6726	0.4029	0.6165
VIF	1.23	1.23	1.23	1.24	1.24	1.24
Breusch-Pagan test	132.86	359.33	164.67	130.67	272.18	87.82

Endogenous regressors	No	No	No	No	No	No

Note: D.V: Dependent variable. ***p<0.01. **p<0.05. *p<0.10.

Source: Authors own creation.

The findings indicate that greenwashing practices positively affect corporate reputation, which does not support our Hypothesis 1. Greenwashing also positively affects the company's innovation capacity, indicating that listed companies in Latin America that are committing more greenwashing practices are having more R&D expenses. This result diverges from our Hypothesis 2. Furthermore, greenwashing practices positively affect market value. In practice, this means that companies with more environmentally inappropriate practices tend to have more valuable shares on the stock market. Therefore, our Hypothesis 3 cannot be supported.

Besides that, ROA positively affects corporate reputation and market value. However, this financial variable negatively affects R&D expenses. As expected, company size positively affects market value and financial leverage negatively affects market value. Adopting a sustainability report has a positive effect on reputation. This indicates that companies that publish an annual sustainability report tend to have a higher reputation than companies that do not do this practice.

However, companies that have a sustainability report tend to have less capacity for innovation. Our findings indicate that the industry sector does not influence the reputation, innovation or market value of Latin American companies. The results show that the country's institutional environment, measured by regulatory quality, affects companies' behavior. More specifically, in countries where regulatory quality is better, companies tend to have a better reputation, greater capacity to innovate and greater market value.

4.3 Asymmetric analysis: fsQCA

The following tables present the results of the fuzzy set qualitative comparative analysis. As can be seen, the solution consistencies of the analyzes are above 0.80, which is an acceptable value. This indicates that more than 80% of the cases of the outcome have one of these combinations. Table VI shows the configurational paths to higher levels of corporate reputation in Latin America.

Table VI. Configurational paths for high levels of corporate reputation.

Condition	Path 1	Path 2	Path 3	Path 4	Path 5	Path 6	Path 7	Path 8	Path 9
GREENW	●					●	●		
ROA	●	●	●	●	●			●	●
FSIZE	△	△	△	△	△	△	△	△	△
LEVER		△		△	●	△	●	△	
SUSREP			△	△	●	●	●		
INDUS		●			△	●	△		△
REGQ			●			●	△	●	●
Raw coverage	0.89	0.39	0.58	0.50	0.07	0.10	0.03	0.52	0.34
Unique coverage	0.10	0.00	0.00	0.00	0.00	0.00	0.00	1.13	0.00
Consistency	0.99	0.99	1.00	1.00	0.99	0.99	0.99	0.99	0.99
Solution coverage	0.94								
Solution consistency	0.99								

Note: ● = core causal condition (present); △ = core causal condition (absent)

Source: Authors own creation.

Consistent with the regressions, Table VI indicates that in three of the nine possible paths, greenwashing is a causal condition of corporate reputation. In seven of the nine possible paths, a higher ROA leads to a higher corporate reputation. Company size is a causal condition absent in all paths. A greater reputation can occur in the presence or absence of greater financial leverage, which confirms the panel data analysis. This same condition occurs for the sustainability report and industry variables. In 44% of the paths, regulatory quality drives a better corporate reputation.

Table VII presents the configurational paths that lead to greater innovation capacity by companies in Latin America. For greater innovation capacity, the results indicate three paths for companies to follow.

Table VII. Configurational paths for high levels of innovation capacity.

Condition	Path 1	Path 2	Path 3
GREENW	●	△	●
ROA	△	●	△
FSIZE	△	△	△
LEVER	△	△	●
SUSREP	●	●	●
INDUS	●	△	△
REGQ	●	●	△
Raw coverage	0.27	0.02	0.18
Unique coverage	0.10	0.02	0.01
Consistency	0.87	0.89	0.94
Solution coverage	0.30		
Solution consistency	0.85		

Note: ● = core causal condition (present); △ = core causal condition (absent)

Source: Authors own creation.

The presence in most paths indicates that greenwashing practices are a causal condition of corporate innovation. In one of the paths, ROA is a causal condition present, but in 66% of the paths its presence does not drive greater innovation. Company size is not a necessary condition for innovation capacity. Therefore, smaller companies in Latin America can be as innovative as larger companies. Unlike the results of the regressions, the company having a sustainability report is an important causal condition for having greater performance in innovation. Depending on the path, industry or regulatory quality is a present or absent condition for greater innovation capacity.

Table VIII highlights the configurational paths to a higher level of market value. The findings present nine different paths for companies in Latin America.

Table VIII. Configurational paths for high levels of market value.

Condition	Path 1	Path 2	Path 3	Path 4	Path 5	Path 6	Path 7	Path 8	Path 9
GREENW	●					●	●		
ROA	●	●	●	●	●			●	●
FSIZE	△	△	△	△	△	△	△	△	△
LEVER		△		△	●	△	●	△	△
SUSREP			△	△	●	●	●		
INDUS		●			△	●	△		
REGQ			●			●	△	●	●
Raw coverage	0.89	0.39	0.58	0.49	0.07	0.10	0.03	0.52	0.34

Unique coverage	0.10	0.00	0.00	0.00	0.00	0.00	0.00	1.13	0.00
Consistency	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Solution coverage	0.94								
Solution consistency	1.00								

Note: ● = core causal condition (present); △ = core causal condition (absent)
Source: Authors own creation.

Corporate greenwashing is a causal condition for higher market value. Confirming the results of the regressions, ROA is a causal condition in the vast majority of possible paths to achieving greater market value. On the other hand, company size is an absent condition in all paths. Depending on the path, financial leverage, sustainability reporting and industry will be present or absent causal conditions to drive high levels of market value. The findings also make it possible to verify a certain influence of regulatory quality on the market value of companies in Latin America.

5 DISCUSSION AND IMPLICATIONS

Our findings allow us to identify that hypotheses H1, H2 and H3 were rejected. This suggests that, unlike other studies in different regions and countries, corporate greenwashing positively affects the reputation, innovativeness, and market value of companies in Latin America.

Our findings reject hypothesis 1, because corporate greenwashing has a positive effect on corporate reputation of companies in Latin America. This result contradicts previous studies (Amer & Ezz, 2023; Ioannou et al., 2023; Santos et al., 2024). According to Mazzioni et al. (2024), institutional differences between developed and emerging countries have significant effects on companies' strategic decision-making, as well as on market responses. In developing countries, a number of difficulties are commonly encountered, including weak regulatory oversight on issues ranging from worker rights to product safety, suspect environmental practices, deficient information disclosure practices, and shallow capital markets (Ahmed et al., 2019; Rottig, 2016). In this vein, the reputational impact of ignoring environmental practices may in emergent countries be less significant or weaker than in developed markets (Ahmed et al., 2019).

Furthermore, greenwashing is just a short-term strategy that remains effective only until stakeholders discern the true circumstances of the green washer, subsequently resulting in reputational damage (Ferrón-Vílchez et al., 2021). Therefore, another potential explanation is that the phenomenon of greenwashing is not receiving sufficient attention or detection by key stakeholders in Latin America. Information asymmetry and human limited rationality create conditions that facilitate greenwashing behavior by enterprises (Cao et al., 2022). This allows companies to exploit these conditions by portraying themselves as sustainable, thus enhancing their reputations within the market.

Regarding the effect of corporate greenwashing on innovation capacity, our results reject hypothesis 2. In this vein, corporate greenwashing has a positive effect on innovation capacity. A possible explanation for this result is that firms with poor ESG performance may initially engage in greenwashing, but as norms regarding transparency become more stringent, those firms may be pressured to upgrade their performance (Haack et al., 2021; Montgomery et al., 2023). In this case, investments in innovation and R&D are necessary despite greenwashing practices. Also, as Yildirim (2023) asserts, greenwashing is due to lower implementation costs, because companies that engage in greenwashing do not allocate money and time to implement genuine sustainable practices. Consequently, the firm has greater resources at its disposal to spend on R&D.

Regarding hypothesis 3, the results reject it, because corporate greenwashing has a positive effect on the market value of companies in Latin America. Greenwashing practices alter the perceptions of stakeholders, which are directly reflected in stock changes (Chen & Dagestani, 2023). In the short run, the greenwashing behavior of enterprises has not been perceived by the public (Cao et al., 2022). While unnoticed, greenwashing practices can improve a company's social recognition and stakeholders' expectations of the company's future behavior and performance, promote investor optimism (Gatti et al., 2021), which consequently increases the firm's value (Cao et al., 2022).

In contrast to the findings of Ghitti et al. (2023), which indicated that greenwashing had a negative impact on market value in a developed country, the results of this present study suggest that in emerging economies, greenwashing practices appear to positively affect market value. This conclusion is supported by the analysis of Chinese firms conducted by Chen and Dagestani (2023).

5.1 Theoretical and practical implications

Our results provide important theoretical and practical implications. At the theoretical level, we explore how greenwashing affects certain organizational characteristics, such as reputation, innovativeness and market value. his is important because most previous studies have analyzed the antecedents of greenwashing practices and little is known about the consequences of corporate greenwashing (Li et al., 2023).

To the best of the authors' knowledge, this is the first work that investigates the consequences of greenwashing in companies based in Latin America. Our paper challenges the difficulties of measuring greenwashing by following the methodology of Ghitti et al. (2023) and finds that the consequences of greenwashing in emerging economies may be different from findings in developed economies. The particular context of Latin America, where environmental laws are not well developed, allows us to identify that greenwashing practices positively affect the reputation, capacity to innovate and market value of companies. Additionally, we employ mixed techniques to test our research hypotheses, which constitutes a methodological contribution.

In practical terms, our findings can be useful for managers, investors, governments and public policy makers. Managers should pursue environmental communication consistent with their corporate practices. Although greenwashing is an unethical practice that positively affects reputation, innovation and market value, stakeholders are more attentive to this type of corporate communication and may boycott the lack of alignment between "walking" and "talking". This means that our findings are not an endorsement of greenwashing practices.

As the disclosure of environmental information is voluntary in Latin America, companies that adopt this type of disclosure may increase their levels of greenwashing. Therefore, policy makers can define and implement environmental standards that facilitate the measurement and comparison of environmental performance between companies. In this vein, the results of this research invite governments in Latin America to encourage their companies to reduce greenwashing, as this can increase stakeholders' trust in the environmental information disclosed.

6 CONCLUSIONS

This study aimed to investigate the effect of corporate greenwashing on the reputation, innovation and market value of companies in Latin America. To achieve our purpose, we analyzed the greenwashing practices of 428 companies based in Latin America.

After combining symmetric (panel data regressions) and asymmetric (fsQCA) techniques, our findings revealed that greenwashing practices affect the corporate reputation, innovation capacity and market value of companies. More specifically, companies that commit more greenwashing practices tend to have a higher reputation, make more investments in R&D, as well as a higher market value. These findings contribute to prior literature and to managers in different ways, as evidenced in section 5.1.

The findings of our study should be contextualized with respect to its limitations. Although the Refinitiv Eikon database is used by many researchers in the field of social responsibility, this database limits the operationalization of other theoretical constructs. Additionally, our findings reflect the context of Latin America, where the institutional dynamics are different from developed contexts. Besides that, we only analyzed three consequences of greenwashing practices for companies.

These limitations can provide opportunities and impetus for future research. Given the interdisciplinary nature of the topic, marketing and environmental management researchers can understand how greenwashing practices affect consumer satisfaction. Furthermore, researchers can examine which characteristics of the institutional environment reduce greenwashing practices in developed and emerging countries. Future studies can also understand whether the implementation of disclosure standards, such as the GRI guidelines, reduces greenwashing practices in culturally different contexts.

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