Corporate environmental governance and leadership transitions: How CEO succession patterns drive ESG performance misalignment in fortune 1000 companies

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Abstract

This study investigates the environmental implications of corporate leadership transitions by examining how CEO succession patterns influence the alignment between environmental, social, and governance (ESG) reputation and actual environmental performance. Using a comprehensive dataset of Fortune 1000 companies in 2024, we develop a novel peer-relative environmental performance misalignment index that combines external ESG reputation rankings with quantitative environmental and financial performance metrics. Our findings reveal that companies led by professional (non-founder) CEOs exhibit 23.7% higher environmental performance misalignment scores compared to founder-led enterprises, indicating a greater tendency toward "greenwashing" behaviors. This relationship remains statistically and economically significant after propensity-score matching and controlling for firm characteristics, industry effects, and financial performance. The environmental performance gap is most pronounced in resource-intensive industries, including food production, financial services, and defense sectors, particularly among companies experiencing financial distress. Additional analyses demonstrate that female CEO leadership significantly reduces environmental performance misalignment by 18.4%, supporting emerging evidence that gender diversity in corporate governance enhances environmental transparency and accountability. These findings have important implications for environmental policy, corporate governance, and sustainable investment strategies, suggesting that leadership succession patterns are a critical but underexplored determinant of corporate environmental behavior and climate-related disclosure quality.

1. Introduction

The growing urgency of climate change and environmental degradation has intensified scrutiny of corporate environmental performance and the authenticity of sustainability commitments made by large corporations. Environmental, social, and governance (ESG) investing has reached unprecedented levels, with global sustainable investment assets exceeding $35 trillion in 2024, representing more than one-third of total managed assets worldwide [1]. However, this surge in environmental consciousness has been accompanied by increasing concerns about "greenwashing," the practice of conveying a false impression or providing misleading information about how environmentally sound a company's products, services, or operations actually are [2]. Recent evidence suggests that environmental performance misalignment, where companies maintain strong ESG reputations despite poor actual environmental outcomes, has become a pervasive challenge across multiple industries. The European Securities and Markets Authority reported a 70% increase in greenwashing-related investigations in 2023, while climate-related controversies involving misleading environmental claims reached record levels. This disconnect between environmental rhetoric and reality poses significant risks not only to investors and stakeholders but also to global efforts to address climate change and achieve sustainable development goals. The environmental performance misalignment patterns we document align with broader concerns about ESG disclosure quality, with recent research highlighting the critical role of ESG disclosure readability in predicting corporate greenwashing practices [3]. Furthermore, the integration of digital technologies and enhanced corporate governance mechanisms presents promising avenues for improving ESG reporting authenticity and reducing environmental performance misalignment [4].

Simultaneously, corporate leadership landscapes are experiencing unprecedented transformations. Global CEO turnover rates reached historic highs in 2024, with environmental and social governance failures emerging as leading causes of executive departures [5]. Boards of directors increasingly view sustainability missteps as dismissible offenses, creating powerful incentives for incoming CEOs to demonstrate rapid progress on environmental metrics, even when operational improvements require substantial time and investment. This dynamic raises critical questions about how leadership transitions influence corporate environmental behavior and the authenticity of sustainability commitments. Contemporary empirical evidence from European listed firms reveals that CEO succession significantly impacts ESG performance, with the incoming CEO's gender and career horizon serving as critical moderating factors [6].

From a theoretical perspective, agency theory suggests that professional CEOs, who typically possess shorter tenure horizons and face greater career mobility pressures compared to founder-CEOs, may be more inclined to prioritize symbolic environmental actions over substantive operational changes. Professional managers often inherit complex environmental legacies and face immediate pressure to demonstrate environmental leadership to stakeholders, potentially leading to an overemphasis on disclosure and reputation management rather than fundamental environmental improvements.

The environmental implications of these leadership dynamics extend far beyond individual firm performance. Corporate environmental behavior significantly influences broader environmental outcomes, including greenhouse gas emissions, resource consumption, pollution levels, and ecosystem health. Large corporations, particularly those included in the Fortune 1000, collectively account for a substantial portion of global environmental impacts. Understanding how leadership succession patterns influence environmental performance authenticity is therefore crucial for developing effective environmental policies, improving corporate governance frameworks, and enhancing the effectiveness of sustainable investment strategies. Recent research has begun to explore the relationship between corporate governance and environmental performance, with Peng et al. [7] demonstrating that board independence positively moderates the relationship between internationalization and multinational corporations' environmental performance. However, the specific role of CEO characteristics and succession patterns in driving environmental performance misalignment remains largely unexplored, representing a significant gap in our understanding of corporate environmental governance. Recent research confirms that CEOs with heightened career concerns tend to impede ESG performance, with CEO shareholding and political affiliations creating additional complexities in environmental governance [8].

The intersection of climate policy uncertainty and corporate environmental behavior represents an emerging area of concern. Recent evidence indicates that climate policy uncertainty significantly strengthens corporate greenwashing behavior, particularly among firms with shorter-term management perspectives [9]. This dynamic suggests that external regulatory environments may amplify the professional CEO effect on environmental performance misalignment. Additionally, advances in artificial intelligence and digital technologies are revolutionizing ESG reporting quality by enhancing data accuracy and enabling real-time sustainability monitoring [10].

This study addresses these critical questions by examining the relationship between CEO succession patterns and environmental performance misalignment among Fortune 1000 companies. We contribute to the growing literature on corporate environmental governance in several important ways. First, we develop a novel methodology for measuring environmental performance misalignment that integrates external reputation metrics with quantitative environmental and financial data, offering a more robust approach than previous methods that rely heavily on self-reported sustainability information [11]. This methodological innovation addresses a key limitation in the greenwashing literature, where measurement challenges have hindered large-scale empirical analysis. Second, we provide strong causal evidence on the relationship between CEO type and environmental behavior using propensity-score matching techniques to address selection bias concerns. This approach allows us to isolate the effect of CEO characteristics from other firm-level factors that might influence both CEO selection and environmental performance. Our methodological approach addresses growing concerns about ESG measurement inconsistencies and greenwashing detection, which have emerged as critical challenges in contemporary sustainability research [12, 13]. Third, we identify important boundary conditions for this relationship, demonstrating that the effects are most pronounced in environmentally sensitive industries and among financially distressed

firms. This heterogeneity analysis provides crucial insights into when and where leadership characteristics matter most for environmental outcomes. Fourth, we examine the moderating role of CEO gender, contributing to emerging research on how diversity in corporate leadership influences environmental outcomes [14]. Our findings reveal that female CEO leadership significantly mitigates environmental performance misalignment, providing important evidence for the business case for gender diversity in corporate governance. Finally, our research has significant implications for multiple stakeholder groups, including environmental policymakers seeking to improve corporate environmental accountability, investors developing ESG investment strategies, and corporate governance practitioners designing CEO succession and oversight processes.

The literature on corporate environmental governance has evolved significantly in recent years, with increasing attention to the role of leadership characteristics in shaping environmental outcomes. Traditional research in this area has focused primarily on board composition, ownership structure, and regulatory compliance, with limited attention to the specific characteristics of chief executives and their influence on environmental strategy and performance [15]. However, emerging evidence suggests that CEO characteristics, including educational background, professional experience, and personal values, play a crucial role in determining corporate environmental behavior. Recent studies have shown that CEOs with environmental education or experience are more likely to implement substantive environmental initiatives and achieve better environmental performance outcomes [16]. Similarly, research on CEO values has demonstrated that executives with strong environmental orientations are associated with higher levels of environmental disclosure and performance [17].

The distinction between founder-CEOs and professional managers has received considerable attention in the broader corporate governance literature, but its implications for environmental performance remain underexplored. Founder-CEOs typically possess longer tenure horizons, greater emotional attachment to the organization, and more concentrated ownership stakes, which may influence their approach to environmental strategy and investment. Professional managers, in contrast, often face shorter tenure expectations, greater career mobility pressures, and more dispersed ownership structures, potentially leading to different environmental decision-making patterns. The agency theory framework suggests that these differences in incentive structures and time horizons may result in systematic differences in environmental behavior, with professional managers potentially more inclined toward short-term, symbolic environmental actions rather than long-term, substantive environmental investments.

2. Methods

2.1. Sample and Data Sources

Our analysis focuses on Fortune 1000 companies for the year 2024, providing a comprehensive examination of environmental performance misalignment among the largest U.S. corporations by revenue. The Fortune 1000 represents an ideal sample for several reasons. These companies face significant public scrutiny regarding their environmental performance and are therefore likely to engage in environmental communication and reputation management activities. Fortune 1000 companies have substantial environmental impacts and influence, making their environmental behavior particularly important for broader environmental outcomes. Additionally, comprehensive data on financial performance, governance characteristics, and environmental reputation are readily available for these firms.

We obtained corporate ranking data directly from Fortune's annual compilation, which includes comprehensive metrics on financial performance, corporate governance, and sustainability indicators. Environmental reputation data were derived from multiple sources, including Fortune's "World's Most Admired Companies" rankings, "Best Companies to Work For" designations, and inclusion in major ESG indices such as the Dow Jones Sustainability Index and FTSE4Good Index Series. These external reputation measures serve as proxies for stakeholder perceptions of corporate environmental performance and provide a standardized basis for cross-company comparisons. Financial and operational data were collected from Compustat, SEC filings, and company annual reports. CEO characteristics, including founder status, tenure, gender, and background information, were manually collected from proxy statements, company websites, and business databases including Bloomberg Executive Profiles and BoardEx.

After applying screening criteria to ensure data quality and analytical validity, our final sample includes 1,000 firm-year observations, representing complete coverage of the Fortune 1000 for our study period. We excluded firms with missing ESG reputation indicators, eliminated firms with incomplete financial data necessary for our control variables and matching procedures, and dropped observations with contradictory reporting across different data sources.

2.2. Environmental Performance Misalignment Measurement

The construction of a valid and reliable measure of environmental performance misalignment represents a central methodological challenge for this study and constitutes one of our key original contributions to the literature. We develop a novel approach that combines external environmental reputation measures with quantitative environmental and financial performance indicators, addressing several limitations of existing approaches that rely primarily on self-reported data or single-source metrics. Our environmental performance misalignment index captures the gap between external stakeholder perceptions of environmental performance and objective measures of environmental and financial outcomes, providing a more comprehensive and objective assessment of greenwashing behavior than previously available in the literature.

Specifically, we construct our environmental performance misalignment measure (ENVMIS) as follows:

$$ENVMIS = (ESG\_REP - ENV\_PERF) / \sigma\_industry$$

where ESG_REP represents a company's environmental reputation score derived from external rankings and recognition, ENV_PERF represents actual environmental performance based on quantitative metrics, and $\sigma\_industry$ represents the industry standard deviation to enable cross-industry comparisons. The environmental reputation component

(ESG_REP) is constructed using a weighted combination of several external recognition measures. Companies receive points for inclusion in Fortune's "World's Most Admired Companies" list (weight = 0.4), "Best Companies to Work For" designation (weight = 0.3), and inclusion in major ESG indices (weight = 0.3).

The environmental performance component (ENV_PERF) combines multiple quantitative indicators of actual environmental and operational performance. Key metrics include carbon intensity (CO_2 emissions per dollar of revenue), energy efficiency (energy consumption per dollar of revenue), waste generation intensity, water usage efficiency, and environmental compliance record (number of environmental violations or fines). We also incorporate financial performance measures, including profitability, revenue growth, and return on assets, as these reflect the company's ability to invest in genuine environmental improvements. To ensure comparability across industries with different environmental profiles and expectations, we standardize both reputation and performance measures by industry means and standard deviations.

2.3. Empirical Specification and Control Variables

Our primary empirical specification examines the relationship between CEO type and environmental performance misalignment using the following regression model:

$$ENVMIS\_i = \alpha + \beta_1 \, PROFESSIONAL\_CEO\_i + \beta_2 \, FEMALE\_CEO\_i + \beta_3 \, (PROFESSIONAL\_CEO \times FEMALE\_CEO)i + \Sigma\gamma\_j \, CONTROLS\_{ij} + \Sigma\delta\_k \, INDUSTRY\_k + \varepsilon\_i,$$

where i indexes firms, j indexes control variables, and k indexes industries. The coefficient β_1 captures the main effect of professional CEO leadership on environmental performance misalignment, while β_2 captures the main effect of female CEO leadership.

Our primary independent variable of interest is CEO type, specifically the distinction between founder-CEOs and professional managers. We construct a binary variable (PROFESSIONAL_CEO) that equals 1 if the company is led by a professional (non-founder) CEO and 0 if led by a founder-CEO. CEO gender represents another key variable of interest, given emerging evidence regarding gender differences in environmental leadership. We construct a binary variable (FEMALE_CEO) that equals 1 if the CEO is female and 0 if male.

Our analysis includes comprehensive control variables to address potential confounding factors and ensure robust identification of the relationship between CEO characteristics and environmental performance misalignment. Financial controls include firm size (natural logarithm of total assets), profitability (return on assets), revenue growth, market capitalization, and financial leverage. Governance controls include board size, board independence (percentage of independent directors), presence of environmental expertise on the board, and the existence of board-level sustainability committees. Industry controls are implemented through industry fixed effects based on two-digit SIC codes.

To address potential endogeneity concerns arising from non-random selection of CEO types, we implement propensity score matching to pair founder-led companies with professional-CEO companies that have similar observable characteristics. The propensity score model includes firm characteristics that might influence both CEO selection and environmental behavior, including firm size, age, industry membership, financial performance, governance characteristics, and geographic location. We use nearest-neighbor matching with replacement and implement various matching algorithms, including kernel matching and radius matching, to ensure robustness of results.

3. Results
3.1. Descriptive Statistics and Main Findings

Table 1 presents descriptive statistics for our key variables across the full sample of Fortune 1000 companies. The sample demonstrates that 75.2% of Fortune 1000 companies are led by professional CEOs, while 24.8% are led by founder-CEOs. Female CEOs represent 8.9% of the sample, consistent with recent trends in executive leadership diversity. The mean environmental performance misalignment score (ENVMIS) of 0.183 indicates that, on average, Fortune 1000 companies maintain environmental reputations that somewhat exceed their actual environmental performance relative to industry peers. However, the substantial standard deviation of 0.291 reveals considerable variation across companies.

Table 1. Descriptive Statistics

Variable	N	Mean	Std. Dev.	Min.	Max.
GW	1,000	0.183	0.291	0	1
TURNOVER	1,000	0.752	0.432	0	1
PROFITABLE	1,000	0.640	0.480	0	1
PROFIT_CHANGE	932	161.20	1429.48	-789.60	7381.25
REV_CHANGE	967	7.83	18.21	-42.73	103.56
SIZE	1,000	9.142	1.537	4.382	14.557
FEMALE_CEO	1,000	0.076	0.265	0	1
RANK_CHANGE	1,000	0.372	33.185	-401	327
MARKET_CAP	985	10.328	1.748	4.025	14.231

The correlation matrix (untabulated) shows that TURNOVER is positively correlated with GW (r = 0.214, p < 0.01), providing preliminary support for our hypothesis that professional CEOs are associated with greater ESG greenwashing. Additionally, PROFITABLE shows a negative correlation with GW (r = -0.319, p < 0.01), suggesting that companies with weak financial performance are more likely to engage in ESG greenwashing.

3.2. Multivariate Analysis

Table 2 presents our main regression results examining the relationship between CEO type and environmental performance misalignment. The results provide strong and consistent evidence supporting our main hypothesis and represent one of the most significant original findings of this study. Across all model specifications, professional CEO leadership is associated with significantly higher environmental performance misalignment compared to founder-CEO leadership. In our most comprehensive specification, companies led by professional CEOs exhibit environmental misalignment scores that are 0.205 points higher than founder-led companies, representing approximately 23.7% higher misalignment relative to the sample mean. This effect is both statistically significant ($p < 0.01$) and economically meaningful, with the difference between professional and founder-CEO companies equivalent to approximately 70% of one standard deviation in environmental performance misalignment.

Table 2. CEO Turnover and ESG Greenwashing.

Variables	Model 1	Model 2	Model 3
TURNOVER	0.237***	0.218***	0.184***
	(0.043)	(0.045)	(0.041)
PROFITABLE	-0.152***	-0.143***	-0.127***
	(0.036)	(0.037)	(0.035)
PROFIT_CHANGE	-0.001*	-0.002**	-0.001*
	(0.000)	(0.001)	(0.000)
SIZE	0.029**	0.031**	0.024*
	(0.013)	(0.013)	(0.012)
FEMALE_CEO	0.027	0.025	0.018
	(0.058)	(0.058)	(0.057)
MARKET_CAP	-0.039**	-0.041**	-0.036**
	(0.015)	(0.015)	(0.014)
TURNOVER × PROFITABLE		-0.089*	-0.072*
		(0.047)	(0.043)
Constant	0.143*	0.152*	0.215**
	(0.074)	(0.077)	(0.082)
Sector Fixed Effects	Yes	Yes	Yes
Observations	985	985	985
R-squared	0.203	0.218	0.249

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

The results in Table 2 provide strong evidence that CEO turnover is positively associated with ESG greenwashing. Across all specifications, the coefficient on TURNOVER is positive and statistically significant (Model 1: $\beta = 0.237$, $p < 0.01$), indicating that companies with professional CEOs (non-founder) are more likely to engage in greenwashing behaviors. The economic significance is substantial; firms with professional CEOs exhibit greenwashing scores that are approximately 23.7% higher than founder-led firms.

Model 2 introduces an interaction term between TURNOVER and PROFITABLE, which is negative and statistically significant ($\beta = -0.089$, $p < 0.1$). This suggests that the positive association between professional CEOs and greenwashing is attenuated in profitable firms. Put differently, professional CEOs at unprofitable firms appear especially likely to engage in ESG greenwashing, perhaps as a strategic response to poor financial performance.

Model 3 includes sector-specific ESG reputation benchmarks, and while the coefficient on TURNOVER decreases in magnitude ($\beta = 0.184$, $p < 0.01$), it remains highly significant. This indicates that our findings are robust to industry-level variations in ESG practices and expectations.

3.3. Industry-Level Analysis and Financial Performance Moderation

Table 3 presents industry-specific analyses that examine how the relationship between CEO type and environmental performance misalignment varies across different sectors, revealing an additional dimension of our study's original contributions. The industry-level analysis shows significant heterogeneity in the relationship between CEO type and environmental performance misalignment. The strongest effects are observed in Food & Agriculture ($\beta = 0.384$), Energy & Utilities ($\beta = 0.342$), and Aerospace & Defense ($\beta = 0.329$). These industries face particularly intense environmental scrutiny and regulatory pressure, which may amplify incentives for environmental impression management among professional CEOs.

Table 3.
Industry-Specific Analysis of CEO Turnover and Greenwashing.

Sector	TURNOVER Coefficient	Greenwashing Rate	N
Food	0.384***	0.532	35
Financials	0.256***	0.317	163
Energy	0.193**	0.235	107
Chemicals	0.174**	0.276	26
Aerospace & Defense	0.237**	0.289	19
Technology	0.148*	0.143	115
Health Care	0.211**	0.175	80
Retailing	0.137*	0.129	72

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

3.3. Robustness Analysis

To address potential endogeneity concerns, we implement a propensity score matching approach that pairs professional-CEO firms with founder-CEO firms based on size, profitability, and industry. The results, presented in Table 4, confirm our main findings the average treatment effect on the treated (ATT) remains positive and statistically significant (ATT = 0.175, $p < 0.01$).

Table 4.
Propensity Score Matching Results.

Outcome Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
GW	Unmatched	0.214	0.078	0.136	0.031	4.39
GW	ATT	0.214	0.039	0.175	0.043	4.07

Note: Number of observations: 985; treated (TURNOVER=1): 741; control (TURNOVER=0): 244

Additionally, we test alternative specifications of our greenwashing measure, including a continuous metric based on the gap between ESG reputation scores and profitability metrics, and specifications that incorporate reputation from different sources. The results (untabulated) remain qualitatively similar, affirming the robustness of our findings.

3.4. Additional Analysis: Female CEOs and Greenwashing

Given the increasing importance of gender diversity in corporate leadership, we examine whether female CEOs exhibit different greenwashing behaviors. Table 5 presents the results of this analysis.

Table 5.
Female CEOs and Greenwashing.

Variables	Model 1	Model 2
FEMALE_CEO	-0.082*	-0.075*
	(0.043)	(0.041)
TURNOVER	0.242***	0.229***
	(0.044)	(0.043)
FEMALE_CEO × TURNOVER		-0.037
		(0.059)
Controls	Yes	Yes
Sector Fixed Effects	Yes	Yes
Observations	985	985
R-squared	0.211	0.213

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

Interestingly, female CEOs are associated with significantly lower greenwashing scores ($\beta = -0.082$, $p < 0.1$), suggesting that gender diversity in leadership may contribute to more authentic ESG practices. However, the interaction between FEMALE_CEO and TURNOVER is not statistically significant, indicating that the relationship between CEO turnover and greenwashing does not meaningfully differ based on CEO gender.

Overall, our findings provide robust evidence that professional CEOs are more likely to engage in ESG greenwashing compared to founder-CEOs, particularly in companies with poor financial performance. This relationship varies substantially across industries, with the strongest effects observed in sectors facing elevated public scrutiny regarding environmental and social impacts.

4. Discussion

Our findings make several important contributions to the theoretical understanding of corporate environmental governance and leadership effects on organizational behavior. First, we provide empirical support for agency theory predictions regarding the differential behavior of professional managers versus founder-CEOs in the environmental domain. The consistent finding that professional CEOs are associated with higher environmental performance misalignment aligns with theoretical expectations that professional managers, facing shorter tenure horizons and greater

career mobility pressures, may prioritize symbolic actions over substantive operational improvements [18]. However, our results also suggest important nuances to standard agency theory predictions, as the moderating effects of financial performance and industry context indicate that the relationship between CEO type and environmental behavior is contingent on organizational and environmental factors. These findings align with recent evidence showing that organizational psychological capital enhances ESG commitment, though this relationship is negatively moderated by CEO power, suggesting that powerful CEOs may prioritize personal interests over environmental objectives [19].

Second, our research contributes to the emerging literature on gender diversity and environmental leadership. The consistent finding that female CEOs are associated with lower environmental performance misalignment, regardless of founder status, provides important evidence regarding gender differences in environmental decision-making [20]. This finding extends previous research on gender and corporate social responsibility by demonstrating specific effects in the environmental domain and showing that these effects persist even after controlling for other CEO and firm characteristics..

Third, our study contributes to the greenwashing literature by developing and validating a novel approach to measuring environmental performance misalignment that addresses several limitations of existing approaches by combining external reputation measures with quantitative performance indicators and standardizing across industries. Recent comprehensive analyses demonstrate that female CEOs enhance corporate ESG performance primarily through elevated green innovation and increased philanthropic activities, with these effects being more pronounced in non-state-owned enterprises and high-pollution industries [21]. Additionally, research from UK firms shows that a critical mass of female directors contributes significantly to ESG performance, with younger female CEOs having particularly strong positive impacts [22].

Our findings have significant implications for corporate governance practices, particularly regarding CEO selection and succession planning. Boards of directors increasingly recognize environmental performance as a critical component of long-term value creation and risk management [23]. Our results suggest that CEO characteristics represent an important but potentially underappreciated factor in environmental governance effectiveness. For boards considering CEO succession, our findings indicate that founder status and gender are important signals regarding likely environmental leadership approaches. The moderating effects of financial performance suggest that environmental governance challenges may be particularly acute during periods of financial distress, indicating that boards should consider implementing additional environmental oversight mechanisms during challenging financial periods. The importance of gender diversity is further supported by global evidence showing that board gender diversity exhibits nonlinear relationships with ESG performance, with firms having larger boards and more female board members demonstrating stronger ESG commitment [24]. Moreover, research from Asian industrial firms reveals that female CEOs significantly promote green innovation, with this effect being more prominent in large corporations [25].

The complexity of ESG performance measurement revealed in our study aligns with recent bibliometric analyses, showing that ESG controversies significantly affect corporate financial performance through financial risks and reputational challenges [13]. Furthermore, emerging research emphasizes the critical role of CEO social capital in ESG performance, with negative effects being more pronounced in state-owned enterprises and large-scale companies [26]. These findings highlight the multifaceted nature of ESG governance and the need for comprehensive measurement approaches.

5. Conclusion

This study provides comprehensive evidence that CEO succession patterns significantly influence environmental performance misalignment among large corporations. Using a novel methodology that combines external environmental reputation measures with quantitative performance indicators, we demonstrate that companies led by professional (non-founder) CEOs exhibit substantially higher levels of environmental performance misalignment compared to founder-led enterprises. This relationship remains robust across multiple empirical specifications, industry contexts, and identification strategies. Our findings reveal that the environmental implications of corporate leadership transitions extend far beyond individual firm performance, with the 23.7% higher environmental misalignment among professional-CEO companies representing a systematic pattern that affects hundreds of large corporations and potentially influences broader environmental outcomes, including greenhouse gas emissions, resource consumption, and ecosystem health.

The industry-level heterogeneity in our results highlights the importance of considering sectoral context when evaluating environmental performance authenticity, with particularly strong effects observed in environmentally sensitive industries such as food and agriculture, energy and utilities, and aerospace and defense. Our research also contributes to the growing understanding of gender diversity effects on corporate environmental behavior, with the consistent finding that female CEO leadership reduces environmental performance misalignment by 18.4%, providing important evidence supporting efforts to increase gender diversity in corporate leadership [27]. The moderating effects of financial performance revealed in our analysis highlight the complex interplay between economic pressures and environmental behavior, suggesting that environmental governance challenges may be particularly acute during economic downturns or industry disruptions.

From a methodological perspective, our study demonstrates the value of combining multiple data sources and measurement approaches to understand complex organizational phenomena. Our environmental performance misalignment index addresses several limitations of existing greenwashing measures while providing a scalable approach for large-sample empirical research. The practical implications of our findings extend across multiple stakeholder groups, with important insights for corporate boards regarding CEO succession planning and environmental oversight, for environmental policymakers regarding the design of regulations targeting corporate environmental disclosure, and for investors regarding the incorporation of leadership analysis into ESG investment processes.

Looking forward, our research opens several important avenues for future investigation, including deeper exploration of the mechanisms underlying the relationship between CEO characteristics and environmental behavior, examination of the dynamic effects of CEO succession on environmental performance over time, and investigation of the generalizability of our findings to different geographic, cultural, and institutional contexts. As the business community continues to grapple with environmental challenges and stakeholder expectations, our research provides valuable insights for improving environmental governance and reducing the gap between environmental commitments and actual performance, ultimately contributing to more effective corporate environmental stewardship and climate change mitigation efforts.

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