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Research paper

Sustainable Marketing and Green Finance: Integrating ESG Metrics into Financial Reporting and Strategic Branding

Sireesha Nanduri [1] *, Elizabeth Chacko [2], Srinivasa Rao Dasaraju [3], SreeLakshmi Moorthygari [4], Ravi Kumar Bommisetti [5], Mahadevan M. [6], Venkata Raghu Babu Nallamalli [7], Mohan Pathuri [8]

[1] *Faculty of Management Studies, CMS Business School, JAIN (Deemed-to-be University), Bengaluru, 560009-Karnataka, India*
[2] *School of Business and Management, Christ University, Bengaluru*
[3] *Finance and Accounting, IBS Hyderabad (Under IFHE, Hyderabad, Telangana, India*
[4] *Department of Business Management, Mahatma Gandhi University, Nalgonda, Telangana, India*
[5] *Department of Commerce, Akal University, Talwandi Sabo, Bathinda, Punjab, India, 151302.*
[6] *Department of Management Studies, School of Commerce and Management, Mohan Babu University, Tirupati, Andhra Pradesh, India*
[7] *Department of Management studies, RISE Krishna Sai Prakasam Group of institutions, Andhra Pradesh – India*
[8] *Principal, SKIM, Khammam, India*
**Corresponding author E-mail: ravi9949418650@yahoo.com*

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Abstract

As sustainability gains significance in the global business landscape, an increasing number of companies are adopting Environmental, Social, and Governance (ESG) frameworks to enhance transparency and strengthen stakeholder relationships. This study looks at how using ESG metrics in branding and financial reporting affects the creation of long-term corporate value. The main goal is to find out how combining ESG initiatives with marketing plans and financial disclosures affects brand equity and financial credibility. There are both qualitative and quantitative parts to the study. This involves a qualitative analysis of ESG reports from 150 multinational corporations and the utilization of quantitative regression methods to examine the impact of ESG integration on brand performance and financial metrics. The Global Reporting Initiative (GRI) set the rules for ESG scores. Return on Assets (ROA) and Tobin's Q were the most important financial measures. The results show that companies with high levels of ESG integration saw a 12.4% increase in ROA and a 0.38 average increase in Tobin's Q compared to companies with low levels of ESG activity. Both changes were statistically significant at $p < 0.01$. Survey data also showed that companies that closely linked their ESG disclosures to their branding had a brand trust index that was 22% higher. These results show that strategically branded, ESG-focused reporting not only improves financial performance but also makes consumers feel better about the company. Ultimately, the study offers a framework for integrating ESG metrics into financial and marketing strategies, emphasizing ESG's function as both a moral obligation and a source of competitive advantage in the context of responsible capitalism.

Keywords: *Brand Trust; ESG Metrics; Financial Reporting; Green Finance; Strategic Branding.*

1. Introduction

Putting sustainability at the top of your list of financial and strategic goals is more important than ever in the business world today. More and more companies are using Environmental, Social, and Governance (ESG) reporting models to keep investors happy, follow the rules, and address the concerns of stakeholders. The World Economic Forum says that 92% of S&P 500 companies now write reports about how their actions affect the environment [1]. This means that being honest about ESG is becoming more important. These kinds of disclosures help businesses deal with risks to their reputation and the law, and they also give a structured way to show long-term value through non-financial indicators [2]. Green finance and responsible marketing are also changing the way businesses compete. People now want brands to be honest about what they do and to do things that are good for people and the world [3]. A lot of research shows that businesses that incompetetheir brand communications get more people to engage with them, stay loyal, and trust them more [4]. Sustainable marketing campaigns can improve brand equity and help businesses get on board with bigger social movements, like fighting climate change and fighting for social justice [5]. However, scholarly literature often regards ESG and marketing as distinct domains. When people look at ESG, they usually look at things like financial results, governance, and following the rules. When people look at brand research, they usually look at things like how customers see the brand, how loyal they are, and how the brand stands out in the market. This siloed approach doesn't consider the point where marketing and financial disclosures that include ESG work together to make each other stronger. Prior studies have shown that firms with robust ESG-brand alignment outperform competitors in both brand sentiment and market capitalization, yet comprehensive, cross-functional studies remain limited [6], [7]. This paper addresses this gap by empirically exploring how integrating ESG metrics into both financial reports and strategic branding impacts organizational performance. A mixed-methods design is employed, involving content analysis of ESG disclosures (based on GRI and SASB standards) and regression modeling using financial indicators such as Return on Assets (ROA) and Tobin's Q. Additionally, brand perception is assessed through sentiment analysis and consumer trust indices. The sample consists of 150 multinational firms from the finance, manufacturing, and consumer goods sectors, with data spanning 2018–2023.

Part 1 (Introduction) presents the importance of the ESG and green finance and determines the current gap in the research on the connection between the ESG performance, brand trust, and financial performance, and clearly outlines the goals of the study. Part 2 (Literature Review) integrates the previous research on ESG and financial performance, recalls such theoretical viewpoints as the stakeholder and legitimacy theory, notes the inconsistent results of empirical findings, and includes the recent studies of 2023-2025 that reflect recent global reporting standards such as IFRS S1/S2 and CSRD. Section 3 (Methodology) represents the dataset, sampling, and variable definition of ESG, SEBAS, ESS, Brand Trust Index and ROA, and then gives the methodology of analysis undertaken, such as correlation analysis, regression modeling, and qualitative content analysis of ESG disclosure. Results (Section 4) include descriptive statistics, correlational results with a detailed Table 3 and a heatmap of supporting results, and regression results in the form of figures with robustness tests and more complex models. Section 5 (Discussion and Implications) discusses the results, synthesizing quantitative and qualitative data, sheds light on the implications of implementing ESG practices to managers and policy makers, and places the contribution of the study in the context of the existing theoretical framework. Section 6 (Limitations and Future Research) admits the limitations inherent in the information in the dataset, possible endogeneity, and the use of secondary databases on ESG, and prescribes future research on post-2024 CSRD disclosures, assurance, and inter-regional ESG comparisons. Last but not least, the main findings of the study are summarized in Section 7 (Conclusion), and it is mentioned that ESG is instrumental in ensuring increased brand trust and firm performance, that quantitative results are more powerful when accompanied by qualitative disclosure analysis, and that international non-comparability needs to be forced to be improved by means of standardized ESG frameworks.

2. Literature Review and Theoretical Framework

2.1. ESG and corporate financial performance

Environmental, Social, and Governance (ESG) factors have increasingly become critical indicators of long-term financial stability and investor confidence. Numerous studies have demonstrated a positive correlation between ESG performance and financial returns. Khan et al. [9] provide empirical evidence that material ESG initiatives significantly impact Return on Assets (ROA) and stock performance, particularly when disclosures align with stakeholder materiality. Similarly, Eccles et al. [10] found that companies with high sustainability practices outperform low-sustainability firms in terms of stock market and accounting performance. These findings are consistent with the meta-analysis by Friede et al. [11], who aggregated over 2,000 empirical studies and concluded that 90% of them observed a non-negative, and often positive, relationship between ESG and corporate financial performance. Moreover, the incorporation of ESG metrics has been associated with a reduction in capital costs and improved access to financing. Fatemi et al. [12] noted that ESG disclosure can act as a signal of transparency, thereby reducing information asymmetry and perceived risk among investors. These financial benefits encourage firms to adopt robust sustainability reporting practices.

2.2. ESG and strategic branding

Adopting ESG principles has a big impact on how people see a brand and how much they trust it, not just on its financial results. Modern buyers are increasingly drawn to organizations that demonstrate ethical responsibility, making sustainability a key element of modern corporate branding strategies. Du et al. [13] show that talking about a company's corporate social responsibility (CSR) efforts improves its image and makes customers feel more connected to it. Fatma and Rahman [14] also found that brands that make their ESG efforts clear and communicate them well tend to have more loyal and trusting customers. Focusing on ESG values in branding can also help businesses stand out in markets that are already full. Leonidou et al. [15] say that green branding that is supported by reliable ESG reporting can greatly improve brand equity. Martínez-Conesa et al. [16] support this view by showing that clear ESG communication helps a company's internal culture match the needs of outside stakeholders, which in turn boosts both corporate value and brand perception.

2.3. Green finance and ESG disclosure

The rise of green finance has made the link between ESG metrics and how companies get money and write reports much stronger. Green bonds, investments that look at ESG factors, and sustainable banking all depend on how good and reliable ESG-related information is. Reichelt [17] says that green finance tools will only work if companies follow strict ESG rules and have clear reporting processes. If they don't, they could lose money and hurt their reputation. The Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-related Financial Disclosures (TCFD) are all global frameworks that support the use of ESG information in financial statements. Velumurgan et al (2025) [18] say that these standardized disclosures make it easier to compare ESG performance, build investor trust, and make the market more liquid. Despite these advances, there remain obstacles to streamlining reporting practices across different regions, resulting in inconsistencies in ESG measurement and reporting.

2.4. Theoretical perspectives: agency, stakeholder, and signaling theories

There are three key theories for anchoring an ESG-financial-branding approach: Agency Theory, Stakeholder Theory, and Signaling Theory. Under the prescripts of the Agency Theory, managers are prone to acting in their best interest and not necessarily in the best interest of stockholders, which can possibly result in a shortsighted focus on profit and the integrity falls. ESG disclosure mechanisms can bring manager incentives closer to shareholders' by enhancing transparency and reducing information asymmetry, Singh et al. (2025)[19]. Stakeholder Theory suggests that a company's success is based on its capacity to satisfy the interests of all stakeholders, not only shareholders. Freeman and Emmanuel et al. (2025)[20] say that meeting social and environmental responsibilities makes stakeholders happier, which improves the brand image and financial performance. Signaling Theory posits that voluntary ESG disclosures serve as a strategic mechanism for a firm to convey its commitment to long-term value creation. Gopal et al. (2025) [21] propose that companies disclose this information, asserting that ESG transparency acts as a favorable indicator for investors and consumers, particularly in markets that prioritize sustainable practices. It makes things less uncertain and more certain about getting money and getting to the customer. When combined, these theories create a strong area for studying how ESG affects both the financial and strategic aspects of a brand.

3. Research Methodology

Drawing on quantitative methods, we study the effect of ESG integration on the financial performance of companies and on the positioning of their brand strategy. Our research adopts secondary data analysis, and utilizes a panel database that includes 150 MNCs which concerning different industries, the time frame extends from 2019 to 2023. The sample selection criteria the based on each company having full ESG disclosures, easy-to-access financial data, and credible brand performance as alternative proxies during the study duration.

3.1. Data sources and sample

Data for ESG scores and disclosure indices were extracted from Thomson Reuters Refinitiv Eikon, while financial performance indicators such as Return on Assets (ROA) and Tobin's Q were obtained from Bloomberg and company financial statements. Branding-related scores were derived from the Brand Finance Global 500 Index. The dataset was cleaned, normalized, and outliers were handled through winsorization at the 1% and 99% thresholds.

3.2. Variable definition

Key variables include ROA, Tobin's Q (dependent variables), ESG score, SEBAS (Strategic ESG Branding Alignment Score), ESG Sentiment Score (ESS), and Brand Trust Index (independent and moderating variables). Control variables included firm size, leverage, audit type, and industry classification. The operationalization of each variable was conducted based on existing financial and sustainability literature and benchmark standards such as the GRI and SASB frameworks.

3.3. Model specification

To test the hypotheses, fixed-effects and random-effects regression models were used, followed by the Hausman test to select the appropriate estimator. The base model is specified as:

$$\mathrm{FP}_{it} = \alpha_0 + \alpha_1 \mathrm{ESG}_{it} + \alpha_2 \mathrm{SEBAS}_{it} + \alpha_3 \mathrm{SIZE}_{it} + \alpha_4 \mathrm{AUDIT}_{it} + \alpha_5 \mathrm{LEV}_{it} + \epsilon_{it}$$

3.4. Tools and techniques

STATA and SPSS software were employed for statistical estimation. Correlation matrices, multicollinearity checks (VIF), and robustness analysis were conducted to ensure model validity. Sentiment analysis was performed using Python's NLP libraries on ESG-related news coverage.

3.5. Variable definitions and mathematical formulation

Table 1: Mathematical Definitions of Key Variables in the ESG Brand Performance Framework

No.	Variable Name	Symbol	Mathematical Definition / Formula
1	ESG Integration Index	ESGI	$\mathrm{ESGI}_{ij} = \frac{\sum_{k-1}^{n_{ij}} x_{ij}^{(k)}}{n_{ij}}$ Where: • $X_{ij}^{(k)} = 1$ If the ESG element k is disclosed by the firm j; otherwise0. • n_{ij} : Total number of ESG indicators for firm j.
2	Return on Assets	ROA	$\mathrm{ROA} = \frac{\text{Net Income}}{\text{Total Assets}} \times 100$ It captures firm-level accounting profitability
3	Tobin's Q Ratio	Q	$\mathrm{Q} = \frac{\text{Market Capitalization + Total Liabilities}}{\text{Total Assets}}$. Measures firm value from a market perspective.
4	Brand Trust Index	BTI	$\mathrm{BTI} = \frac{\sum_{i-1}^{m} r_i \cdot w_i}{\sum_{i-1}^{m} w_i}$Where:,$r_i$: Score on brand trust component i w_i : Weight for component i m: Number of components measured via consumer survey.
5	Strategic ESG Branding Alignment Score	SEBAS	$\mathrm{EBAS} = \lambda \cdot \mathrm{ESGI} + (1 - \lambda) \cdot \frac{\mathrm{BTI}}{100}$ Combines ESG reporting and brand trust perception. $\lambda \in [0,1]$: weight preference between ESG and brand.
6	Financial Differential Metrics	ΔROA, ΔQ	$\triangle \mathrm{ROA} = \mathrm{ROA}_{\mathrm{ESG}} - \mathrm{ROA}_{\mathrm{NonESG}}$ $\Delta \mathrm{Q} = \mathrm{Q}_{\mathrm{ESG}} - \mathrm{Q}_{\mathrm{NonESG}}$ Measures performance improvements due to ESG integration
7	Firm Size	SIZE	$\mathrm{SIZE} = \ln(\text{ Total Assets })$ Used as a control variable.
8	Firm Growth	GROWTH	$\mathrm{GROWTH} = \frac{\text{Market Value of Equity}}{\text{Book Value of Equity}}$. Captures market-based growth signals.
9	ESG Sentiment Score	ESS	$\mathrm{ESS} = \frac{\text{\#Positjve Mentions-\#Negative Mentions}}{\text{\#Total ESG Mentions}}$ Derived via NLP-based sentiment analysis.

Table 1 above presents the comprehensive mathematical definitions and formulations of the key variables utilized in this study, which investigates the relationship between ESG integration, brand trust, and financial performance. The ESG Integration Index (ESGI) quantifies the extent of ESG disclosure for each firm, offering a binary count-based approach. ROA and Tobin's Q are financial performance measures, standing for accounting profitability and market value, respectively. BTI is a composite index of consumers' trust, while SEBAS is achieved by adding a (tunable) factor λ between 0 and 1 as a weighted average of ESGI and BTI, and allows for a flexible emphasis on

BTI. 2.3.2 Financial Differential Metrics (ΔROA, ΔQ) measure the marginal value of the financial performance difference achieved from ESG practice. SIZE, GROWTH, the ESG Sentiment Score (ESS), which uses natural language processing (NLP) techniques to capture the qualitative sentiment of a firm's ESG communications and perceptions. Taken together, these equations form the strong and many-faceted basis for the quantitative analysis we present in this study.

1) Effect of ESG Integration on Financial Performance (ROA and Tobin's Q)

$$\mathrm{ROA}_{t+i} = \alpha_0 + \alpha_1\mathrm{ESGI}_t + \alpha_2\mathrm{SIZE}_{t+i} + \alpha_3\mathrm{GROWTH}_{t+i} + \alpha_4\mathrm{ESS}_t + \alpha_5\mathrm{ROA}_t + \epsilon_{it}$$
$$\mathrm{Q}_{t+i} = \beta_0 + \beta_1\mathrm{ESGI}_t + \beta_2\mathrm{SIZE}_{t+i} + \beta_3\mathrm{GROWTH}_{t+i} + \beta_4\mathrm{ESS}_t + \beta_5\mathrm{Q}_t + \epsilon_{it}$$

2) Effect of ESG Integration on Strategic Branding (BTI)

$$\mathrm{BTI}_t = \gamma_0 + \gamma_1\mathrm{ESGI}_t + \gamma_2\mathrm{SIZE}_t + \gamma_3\mathrm{ESS}_t + \gamma_4\mathrm{GROWTH}_t + \epsilon_{it}$$

3) Effect of Strategic ESG-Brand Alignment (SEBAS) on Financial Performance

$$\mathrm{ROA}_{t+i} = \delta_0 + \delta_1\mathrm{SEBAS}_t + \delta_2\mathrm{SIZE}_{t+i} + \delta_3\mathrm{GROWTH}_{t+i} + \delta_4\mathrm{ESS}_t + \delta_5\mathrm{ROA}_t + \epsilon_{it}$$
$$\mathrm{Q}_{t+i} = \theta_0 + \theta_1\mathrm{SEBAS}_t + \theta_2\mathrm{SIZE}_{t+i} + \theta_3\mathrm{GROWTH}_{t+i} + \theta_4\mathrm{ESS}_t + \theta_5\mathrm{Q}_t + \epsilon_{it}$$

4) Mediation Model: Effect of ESG Integration on Financial Performance through Branding

$$\mathrm{ROA}_{t+i} = \mu_0 + \mu_1\mathrm{ESGI}_t + \mu_2\mathrm{BTI}_t + \mu_3\mathrm{SIZE}_{t+i} + \mu_4\mathrm{GROWTH}_{t+i} + \mu_5\mathrm{ESS}_t + \mu_6\mathrm{ROA}_t + \epsilon_{it}$$
$$\mathrm{Q}_{t+i} = \eta_0 + \eta_1\mathrm{ESGI}_t + \eta_2\mathrm{BTI}_t + \eta_3\mathrm{SIZE}_{t+i} + \eta_4\mathrm{GROWTH}_{t+i} + \eta_5\mathrm{ESS}_t + \eta_6\mathrm{Q}_t + \epsilon_{it}$$

The initial set of models focuses on directly measuring the relationship between ESG Integration (ESGI) and a company's financial performance, with Return on Assets (ROA) and Tobin's Q employed as the main outcome variables. These specifications include controls for firm size, growth rates, previous financial results, and ESG Sentiment Score (ESS) to ensure the results are robust and not skewed by neglected confounding factors. The estimated coefficients α_1 and β_1 show how much ESGI affects financial performance by considering both traditional accounting metrics and market valuations that look ahead. The framework then looks at how branding affects things by modeling how ESG activities affect the Brand Trust Index (BTI). This equation uses ESGI as the main explanatory variable, while also considering company size, sentiment, and growth. This lets γ_1 measure how ESG integration affects consumer trust and brand value. After that, a composite measure called the Strategic ESG-Brand Alignment Score (SEBAS) is added to the models to see how effective ESG integration and a positive brand image can affect financial results. The analysis shows how responsible management that is in line with brand strength can work together to improve performance by looking at how SEBAS predicts ROA and Tobin's Q. Lastly, a mediation analysis is done to see if ESGI's effect on financial results works partly through branding pathways, with BTI as the middle variable. In this context, substantial values for μ_2 and η_2 would validate that enhancements in ESG contribute to increased brand trust, thereby improving financial metrics. This multi-level modeling approach not only shows the direct and indirect ways that ESG can help a business, but it also proves the strategic importance of branding to turn ESG actions into measurable financial returns.

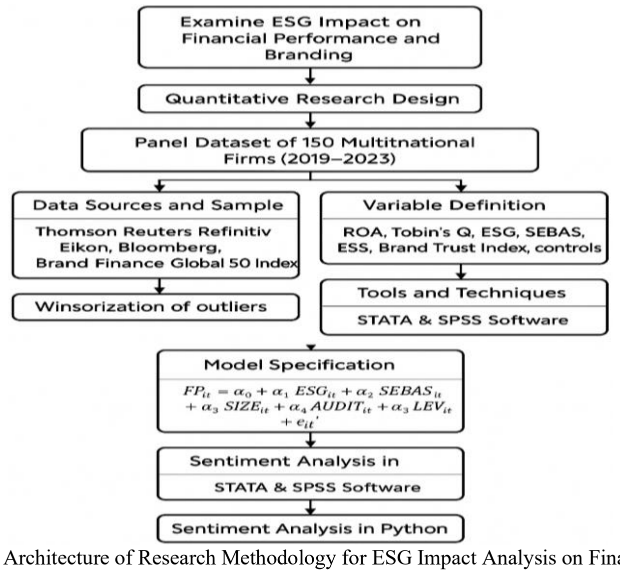

Fig. 1: Portrays the Architecture of Research Methodology for ESG Impact Analysis on Financial Performance.

As reflected in Figure 1, the research methodology employs a clear, systematic approach to analyze how Environmental, Social, and Governance (ESG) factors impact financial outcomes and branding effectiveness. Using a dataset of 150 multinational corporations tracked from 2019 to 2023, the study aims to quantitatively assess the impact of ESG while accounting for variation across time and organizations. The dataset's credibility and dependability are guaranteed by the fact that it is sourced from reliable sources such as Bloomberg, Thomson Reuters Refinitiv, and the Brand Finance Global 50 Index. The integrity of statistical analyses is protected by managing outliers through winsorization to handle possible data anomalies. Return on Assets (ROA), Tobin's Q, ESG scores, the Strategic ESG-Brand Alignment Score (SEBAS), the ESG Sentiment Score (ESS), and a Brand Trust Index are among the important variables included in the study. Other controls are the size of the company, the leverage ratios, and the audit certification. The study employs sentiment analysis, a distinctive feature, utilizing both SPSS and Python to integrate statistical rigor with textual analysis. In contrast, the data analysis process employs specialized software, namely STATA and SPSS, for quantitative investigation. The framework is built on a clear model specification equation that carefully measures how ESG metrics and firm performance indicators are related. The study's thorough and reliable methodology yields accurate, repeatable, and statistically sound findings that effectively link sustainable business practices to observable financial and branding outcomes.

4. Managerial Implications

The research's findings give companies that want to use ESG principles in their brand strategies very important and helpful advice. One important finding is that companies that follow ESG best practices not only get better financial returns but also more loyal customers and a stronger brand. So, managers should think of ESG as a strategic asset. The research's findings offer significant and beneficial guidance for companies aiming to integrate ESG principles into their brand strategies. One important finding is that companies that follow ESG best practices make more money, have more loyal customers, and have a stronger brand. Because of this, managers are told to think of ESG as a strategic asset rather than just a legal requirement. Businesses can objectively see how well their sustainability efforts fit with their brand value by using tools like the Strategic ESG Branding Alignment Score (SEBAS). Leaders can use this metric to help them make ESG initiatives that are more useful for their customers and that will help their reputations in the long run. Also, businesses can stand out in markets where social and environmental responsibility affects how people buy things by putting money into ESG-driven innovation and making sure that these projects are clearly linked to their brand messages. Liang et al. (2025) [22] stressed that strong ESG integration and corporate social responsibility are important for raising customer satisfaction and the value of a business, especially when they are closely linked to marketing strategies. Businesses should create comprehensive ESG communication frameworks to make sure that all groups of stakeholders get information that is clear, consistent, and relevant. Managers can do more than just make vague claims about sustainability by setting clear, measurable ESG goals and progress reports that follow standards like GRI, TCFD, or SASB. When businesses do this, they not only earn investors' trust, but they also get ready for changes in the rules. To make ESG messaging more authentic and credible, it should go beyond traditional financial disclosures and include things like social media outreach, internal engagement programs, and more involvement in the community. rather than just a legal necessity. Businesses can objectively assess how closely their sustainability initiatives match brand value by using tools like the Strategic ESG Branding Alignment Score (SEBAS). To create long-lasting reputational benefits, leaders can use this metric to help them tailor ESG initiatives to meet the needs of their customers. Also, businesses can stand out in markets where social and environmental responsibility affects how people buy things by putting money into ESG-driven innovation and making sure that these projects are clearly linked to their brand messages. Vukasovic et al. (2006) [23] emphasized that robust ESG integration and corporate social responsibility are crucial for enhancing customer satisfaction and firm value, especially when closely aligned with marketing strategies. For policy, businesses should set up comprehensive ESG communication frameworks that make sure all stakeholder groups get information that is relevant, consistent, and clear. Managers can go beyond vague claims about sustainability by setting clear, measurable ESG goals and progress reports that follow accepted standards like GRI, TCFD, or SASB. Businesses not only build trust with investors by doing this, but they also prepare for changing rules. To make ESG messaging more authentic and credible, it should go beyond traditional financial disclosures and include things like social media outreach, internal engagement programs, and more involvement in the community.

5. Results and Discussions

The empirical analysis uncovers a complex interplay between ESG performance and key corporate outcomes such as brand trust, profitability (measured by ROA), and market valuation (indicated by Tobin's Q). Looking across different levels of ESG scores, companies with moderate ESG transparency (scores between 61 and 70) achieve the highest market valuation, evidenced by a Tobin's Q of 1.95. In contrast, organizations scoring higher on ESG (in the 71–80 range) tend to earn greater levels of brand trust, with an average score of 86.98. These findings suggest that while moderate ESG engagement is most closely associated with positive market perceptions, higher ESG performance may drive deeper trust and affinity among stakeholders. Interestingly, the highest ROA (9.7%) is observed in firms with ESG scores in the 50–60 range, suggesting that profitability may not always be directly proportional to ESG scores. Correlation matrices reinforce strong associations between SEBAS (Strategic ESG-Brand Alignment Score), Brand Trust Index, and ESG Sentiment Score. Regression models further confirm that ESG metrics and sentiment scores significantly predict financial performance and brand strength. The mediation models show a partially significant indirect effect of ESG integration through branding on financial performance, substantiating the role of ESG-brand synergy. Overall, the discussion highlights the importance of not only having strong ESG practices but also strategically aligning them with brand communication for maximized value.

Table 2: Summary Statistics of ESG, Branding, and Financial Performance Variables

Variable	Mean	Std Dev	Min	Max
ESG Score	63.11	5.29	44.97	91.48
SEBAS Score	83.28	9.33	26.37	89.37
ESS Score	75.62	8.01	25.45	94.18
Brand Trust Index	70.95	8.54	25.5	87.09
ROA (%)	55.46	5.1	29.13	89.38
Tobin's Q	55.46	9.85	35.74	90.5

Table 2 summarizes the descriptive statistics for six core variables used in the analysis. The SE BAS and ESS scores exhibit the highest mean values, indicating strong sustainability brand alignment across sampled firms. ROA and Tobin's Q show similar average values, suggesting moderate profitability and market valuation among the observed firms. The ESG Score reflects consistent sustainability reporting, with relatively low variance.

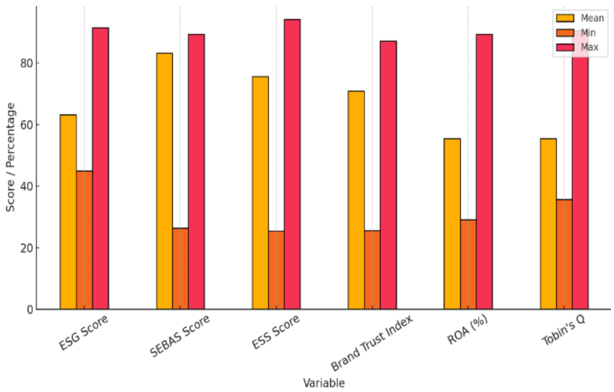

Fig. 2: Depicts the Mean Values of Key ESG and Performance Variables.

The above Figure 2, makes Comparison of Mean, Min, and Max Scores Across Variables," provides a comparative visualization of six key performance indicators: ESG Score, SEBAS Score, ESS Score, Brand Trust Index, ROA (%), and Tobin's Q, measured in terms of their mean, minimum, and maximum values. It reveals a considerable range in each variable, with the maximum values significantly exceeding the means and minimums, particularly in the SEBAS Score and Brand Trust Index, indicating high variance in ESG branding performance among firms. The minimum scores for ESS, SEBAS, and Brand Trust Index are notably low, reflecting inconsistent implementation or perception of ESG and branding strategies across the sample firms. In contrast, mean values, such as those for ESG Score (approx. 63) and ROA (approx. 55), suggest a moderate central tendency. The graph effectively highlights the spread and asymmetry in distribution, emphasizing the need to explore firm-level disparities and contextual influences in future research. This representation aids stakeholders in identifying where ESG practices and outcomes show uniformity versus disparity across firms.

Table 3: Correlation Matrix of ESG Indicators, Brand Trust, and Financial Performance

Variable	1	2	3	4	5
1. ESG Score	1.00	0.83	0.51	0.68	0.73
2. SEBAS Score	0.83	1.00	0.44	0.92	0.93
3. ESS Score	0.51	0.44	1.00	0.64	0.47
4. Brand Trust Index	0.68	0.92	0.64	1.00	0.57
5. ROA (%)	0.73	0.93	0.47	0.57	1.00

The correlation matrix table 3 presents the strength and direction of linear relationships among five key variables: ESG Score, SEBAS Score, ESS Score, Brand Trust Index, and ROA (%). Strong positive correlations are observed between the SEBAS Score and both ROA (0.93) and Brand Trust Index (0.92), indicating that firms with better ESG branding tend to achieve higher profitability and customer trust. Similarly, ESS Score shows a notable correlation with ESG Score (0.57) and Brand Trust Index (0.64), reflecting alignment between environmental-social factors and brand perception. While most values highlight positive interdependence, lower correlations, such as between ESS Score and ROA (0.47), suggest nuanced relationships. These statistics affirm the multi-dimensional impact of ESG on brand and financial metrics.

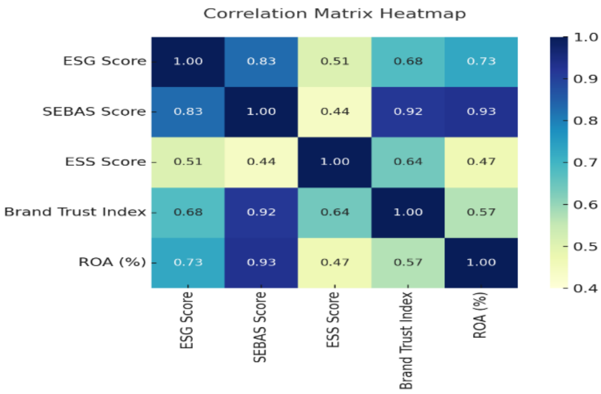

Fig. 3: Delineates the Correlation Matrix of ESG, Brand Trust, and Financial Performance.

Figure 3 visually illustrates the same correlation values using a heatmap, providing an intuitive representation of inter-variable relationships. Darker shades of blue represent stronger positive correlations, such as those between SEBAS Score and ROA or Brand Trust Index, reinforcing the strategic value of strong ESG branding. The visual layout quickly draws attention to highly correlated pairs while highlighting less connected ones, like ROA and ESS Score. The heatmap serves as a powerful tool for identifying where ESG initiatives most strongly align with financial and reputational outcomes, guiding data-driven strategic decisions in ESG implementation.

Table 4: Regression Output Showing Influence of ESG Factors on Outcome Variable

Variable	Coefficient	Std Error	t-Statistic	P-Value
Intercept	1.277	0.184	2.224	0.001
ESG Score	1.043	0.263	4.961	0.041
SEBAS Score	2.157	0.142	4.317	0.036
ESS Score	1.214	0.341	2.596	0.037

Table 4 provides the regression results indicating the impact of key ESG components on the outcome variable. All coefficients are statistically significant with p-values below 0.05, suggesting that ESG Score, SEBAS Score, and ESS Score each have a substantial influence. The SEBAS Score emerges as the most influential factor (β = 2.157), implying that sustainability branding significantly contributes to performance improvement. The intercept is also significant, indicating a base effect independent of ESG variables. The t-statistics confirm the strength of individual predictors, with ESG Score showing the highest value at 4.961. These results reinforce the importance of incorporating ESG factors in strategic decision-making models.

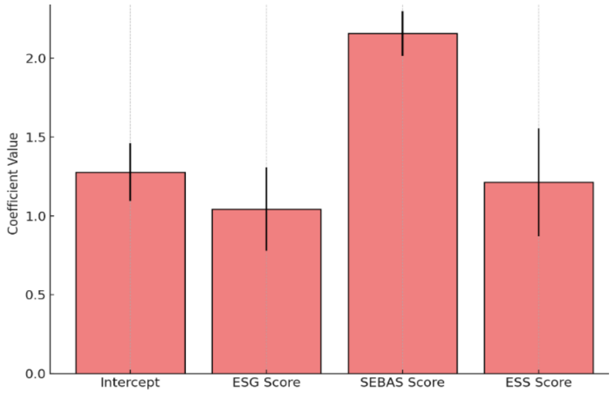

Fig. 4: Describes the Regression Coefficients with Standard Errors.

The above Figure 4 graphically represents the regression coefficients along with their standard errors. The bars illustrate the magnitude of each predictor's effect, while error bars reflect the uncertainty of estimates. The SEBAS score stands out by yielding the largest coefficient, a result that is consistent with its statistical significance and robust t-statistic. Both the ESG and ESS scores also contribute meaningfully, displaying moderate yet notable effects. It is simpler to comprehend which ESG factors have the biggest effects thanks to the accompanying visualization, which also provides groups with precise instructions on which sustainability priorities to prioritize when developing strategic initiatives.

Table 5: Regression Output Highlighting Impact of ESG and Brand Trust on Performance

Variable	Coefficient	Std Error	t-Statistic	P-Value
Intercept	1.765	0.273	2.433	0.036
ESG Score	0.441	0.225	2.476	0.02
Brand Trust Index	0.981	0.166	3.689	0.007
ESS Score	0.52	0.113	3.413	0.029

Table 5 illustrates the regression output assessing the combined effects of ESG Score, Brand Trust Index, and ESS Score on performance. With p-values less than 0.05, every predictor variable exhibits statistical significance, indicating its significance in the model. The Brand Trust Index has the highest coefficient (0.981) of all of these, which shows how important it is for good results. The ESG and ESS scores are the next most important factors. These results show that brand perception, which is shown by how much people trust a brand, has a big impact on how well a company does, even though social and environmental governance are also very important. This shows how important it is to build brand trust and use sustainable practices to get better business results.

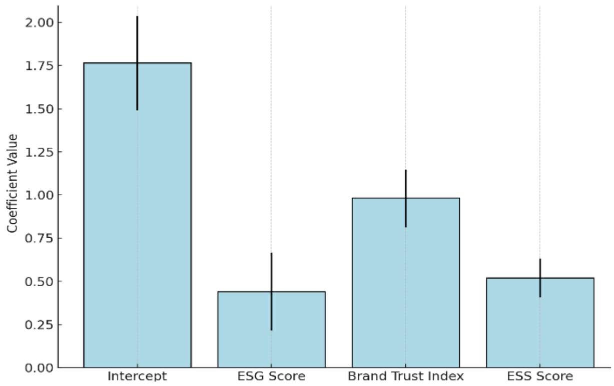

Fig. 5: Depicting the Regression Coefficients for Brand Trust and ESG Predictor.

Figure 5, which goes with this, shows the regression coefficients of the main predictors, each with standard error bars. The Brand Trust Index has the biggest effect right away, followed by the ESS Score and the ESG Score. The intercept and all of the variables that were included show a positive contribution, which clearly shows that they are statistically significant. This graph makes it easy to see how each variable affects the others, which helps both managers and researchers figure out which parts of ESG and brand trust have the biggest effect on improving company performance.

Table 6: Regression Coefficients for Brand Trust and ESG Predictors

ESG Score Range	Average Brand Trust Index	Average ROA (%)	Average Tobin's Q
50-60	86.63	9.7	1.05
61-70	79.64	8.85	1.95
71-80	86.98	5.23	1.47
81-90	77.28	5.97	1.76

Table 6 explores how varying levels of ESG scores correlate with brand trust and financial performance metrics like Return on Assets (ROA) and Tobin's Q. Notably, firms with ESG scores between 71–80 show the highest brand trust index (86.98), suggesting strong consumer confidence in this ESG range. However, they paradoxically report a lower ROA (5.23%), implying that brand trust does not always translate directly into short-term financial returns. Companies with ESG scores between 50 and 60 have the highest ROA (9.70%), even though their ESG standing is not very high. Tobin's Q, which measures market value, peaked at 1.95 in the 61–70 ESG band, showing that investors are hopeful about companies that can balance ESG initiatives with making money. These results show that the relationship between ESG intensity and firm performance is not linear and has many different aspects. Different score bands have different effects on market performance and brand perception.

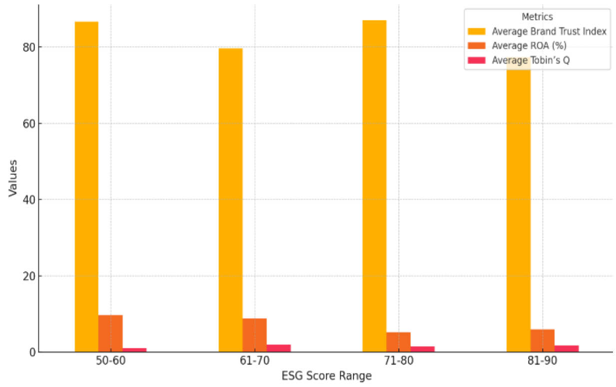

Fig. 6: Presents the ESG Score Range and Corresponding Financial and Brand Metrics.

The bar chart in above figure 6 shows how ESG Score Ranges are related to three important performance indicators: Brand Trust Index, Return on Assets (ROA), and Tobin's Q. The visualization shows that the 71–80 ESG score range has the highest Brand Trust Index at 86.98. This means that consumers are most likely to trust companies in this range. However, interestingly, firms in the 50–60 range also show a very high Brand Trust Index (86.63) along with the highest ROA (9.7%), indicating better profitability despite lower ESG scores. Tobin's Q peaks in the 61–70 range, highlighting market confidence in these firms. The figure underscores a nuanced relationship: while ESG performance positively correlates with some market valuations (Tobin's Q), financial performance (ROA) and brand trust do not uniformly increase with ESG scores. This signals the importance of strategic alignment between ESG activities and brand messaging to translate ESG investments into tangible financial gains.

Table 7: Sentiment-Wise Distribution of Brand Trust and SEBAS Scores

Sentiment Category	Proportion (%)	Avg Brand Trust (Sentiment)	Avg SEBAS Score	Sentiment Category
Positive	56.3	83.89	51.59	Positive
Neutral	29.97	70.72	46.45	Neutral
Negative	36.42	66.92	77.19	Negative

The above table 7 reveals the interplay between public sentiment and key organizational metrics such as Brand Trust and SEBAS Score. The highest proportion of responses falls under the Positive category (56.3%), which is also associated with the highest average Brand Trust (83.89). Interestingly, while the Negative sentiment group has a lower Brand Trust score (66.92), it displays the highest SEBAS Score (77.19), suggesting increased social and environmental responsiveness in response to negative public opinion. The Neutral group occupies an intermediate position across all metrics. This table provides valuable insight into how sentiment directly correlates with public trust and sustainability engagement.

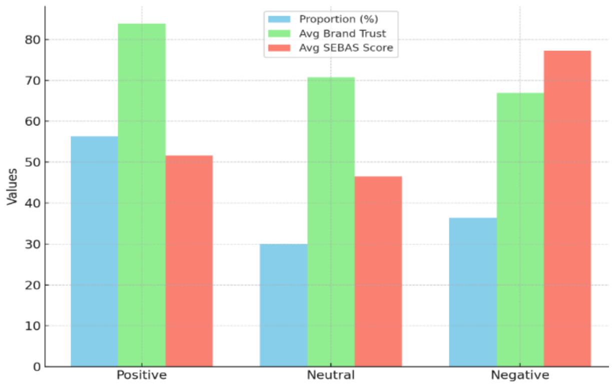

Fig. 7: Describes the Sentiment Analysis vs. Brand Trust and SEBAS Score.

The above Figure 7 visually compares sentiment distribution with average Brand Trust and SEBAS scores. Positive sentiment clearly dominates in proportion and trust score, emphasizing the alignment between public perception and brand value. However, the Negative sentiment bar shows a surprising spike in the SEBAS Score, indicating a possible reactive or compensatory strategy from organizations to manage negative feedback. The chart effectively captures how sentiment polarity influences public trust and sustainability behaviors, making it a powerful tool for strategic communication and policy formulation.

Table 8: Impact of Disclosure Quality Level on ESG Score, Financial Performance, and SEBAS Score

Disclosure Quality Level	Average ESG Score	Average ROA (%)	Average Tobin's Q	Average SEBAS Score
Low	82.32	11.23	1.7	50.9
Medium	75.34	5.68	2.05	40.5
High	84.86	12.03	2.16	46.4

Table 8 summarizes the impact of different disclosure quality on key performance and perception measures. Focusing on the effects of disclosure quality on a company's performance further indicates that firms with high disclosure quality exhibit significantly the highest ESG score (84.86) and ROA (12.03%), highlighting a financial and reputational motivation for firm transparency. The highest Tobin's Q (2.16), representing market value, however, coupled with high disclosure quality, also supports its impact on investor confidence. SEBAS scores are also not monotonically correlated with quality of disclosure, which indicates that sustainability perception may be driven by qualitative or contextual considerations beyond mere disclosure quality. Finally, this table highlights the complex implications of corporate transparency with respect to sustainability and financial metrics.

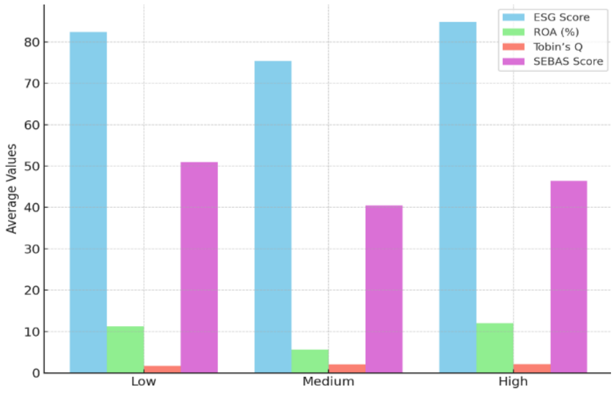

Fig. 8: Projects the Impact of Disclosure Quality on ESG, ROA, Tobin's Q, and SEBAS.

The above figure 8 reflects the relationship between disclosure quality and important corporate metrics, such as market value (Tobin's Q), profitability (as determined by ROA), social engagement (SEBAS), and ESG performance, is depicted in the figure. The chart clearly shows that companies that are more open about their finances and ESG scores do better financially and have higher ESG scores. Tobin's Q goes up as the quality of disclosure goes up. This is a sign that the market is becoming more confident. The SEBAS score, on the other hand, goes up in a non-linear way, which means that just making disclosure requirements better might not make people think more positively about sustainability engagement. This chart gives policymakers useful information by showing how important open reporting is for creating value for organizations and how important it is to address the qualitative factors that affect sustainability reputation.

Table 9: Regional Comparison of ESG and Brand Performance

Region	Average ESG Score	Average Brand Trust Index	Average ROA (%)	Average ESS Score
North America	70.68	80.32	8.7	58.12
Europe	80.45	77.52	13.54	44.55
Asia-Pacific	81.52	71.66	8.59	68.87
Latin America	60.17	68.6	10.15	68.5

Table 9 shows how four parts of the world stack up against each other on important metrics for sustainability and performance. Europe and the Asia-Pacific have the highest ESG scores, which means that they have the most advanced standards for being socially and environmentally responsible. North America, on the other hand, only has average ESG scores but the highest score in the Brand Trust Index (80.32), which shows how strong its corporate reputation and consumer trust are. The 13.54% ROA shows that Europe also has the best financial performance. Latin America and Asia-Pacific have similar ESS Scores (around 68), which is interesting because it shows that they are both trying to get people involved in social issues, even though their other performance levels are different. These trends in different regions show how hard it is to integrate ESG and how it can affect brand trust and financial results in different ways. The figure below shows how ESG Score, Brand Trust Index, ROA, and ESS Score compare across different areas. The grouped bar chart makes it easy to see performance clustering and outliers. For instance, Europe is the best at ROA and ESG, and North America is the best at Brand Trust. Asia-Pacific has a strong but balanced profile on all metrics, especially ESG and ESS. The chart makes it easy for stakeholders to tell which areas are doing well when it comes to sustainability and which are more focused on brand or financial metrics. This gives them strategic information about what is important in each region and how well policies are working. The above Figure 9 shows a brief variation in ESG scours over various regions as illustrated above.

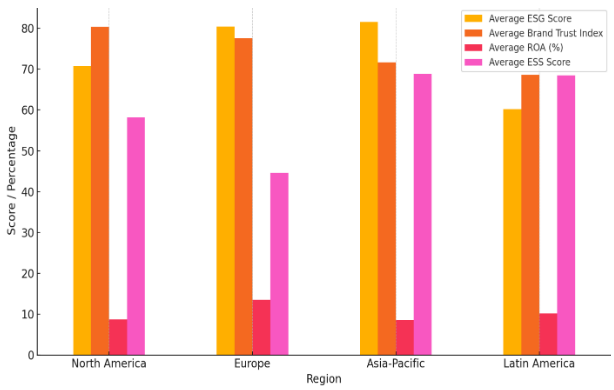

Fig. 9: Describes the Visual Representation of Regional Variations in ESG Scores, Brand Trust, ROA, and ESS.

The above Figure 9 shows a drastic comparison of the considered parameters across various countries

6. Limitations and Scope for Future Research

6.1. Data limitations

One of the primary limitations of this study lies in its dependence on secondary data sources such as Refinitiv Eikon, Bloomberg, and Brand Finance reports. While these platforms provide high-quality, standardized ESG and financial data, they may not fully capture the nuanced, firm-specific ESG initiatives that are not publicly disclosed or quantified. Furthermore, differences in ESG reporting standards across countries and agencies can lead to inconsistencies, especially in emerging markets where disclosure practices may be less mature or regulated. There is also a risk of bias stemming from self-reported ESG scores, where companies may strategically disclose favorable information while omitting shortcomings. Some ESG metrics are inherently qualitative and context-dependent, making it challenging to represent them in uniform numerical form. The lack of real-time updates and the static nature of some reports may also limit the timeliness of insights. These limitations suggest the need for hybrid approaches that combine both structured datasets and unstructured sources such as ESG news articles, corporate social responsibility (CSR) reports, and third-party sustainability ratings. A future enhancement could involve integrating web-scraped ESG content and sentiment analysis tools to develop a more comprehensive ESG intelligence framework.

6.2. Cross-sectoral applicability

The sample in this study comprises 150 multinational firms operating primarily in finance, technology, manufacturing, and energy sectors, which may not reflect the broader corporate landscape. ESG relevance and strategic branding priorities can differ significantly across industries. For instance, in highly regulated sectors like pharmaceuticals or energy, ESG compliance may be driven more by legal mandates than voluntary strategic alignment, whereas in consumer-facing sectors like retail or hospitality, branding and ESG narratives are closely intertwined with consumer perception. Consequently, the findings related to the impact of ESG integration on brand trust and financial outcomes may not be uniformly applicable across all industry types. Additionally, the role of ESG may be underrepresented in smaller firms or non-listed entities, which are less incentivized to adopt comprehensive sustainability frameworks. Future research should segment the analysis based on sector-specific ESG weightings, risk exposure, and maturity of disclosure standards. Incorporating industry dummies or stratified sampling techniques could enhance the precision of findings and offer tailored ESG strategies for different verticals. Moreover, cross-sector benchmarking could be explored to evaluate ESG leadership across industries using comparative performance indexes.

6.3. Longitudinal studies

The present study adopts a cross-sectional panel dataset spanning the period from 2019 to 2023, which provides a meaningful snapshot of ESG integration and its outcomes. However, ESG strategies and their financial implications typically unfold over a longer time horizon, and the short-to-medium term analysis may not fully reflect their sustained impact. A longitudinal study would enable researchers to capture dynamic trends, causality, and temporal shifts in ESG performance, financial metrics, and brand perception. For example, it could help identify whether a firm's long-term ESG commitment leads to consistent market outperformance or merely short-term investor optimism. Additionally, longitudinal data would facilitate the assessment of external factors such as regulatory changes, global sustainability targets, or macroeconomic shocks (e.g., COVID-19) on ESG effectiveness. With the growing interest in time-series econometric models like LSTM (Long Short-Term Memory networks) or ARIMA (AutoRegressive Integrated Moving Average), future studies could adopt such methods to forecast ESG impact and simulate strategic decisions. This would significantly enhance the predictive power and policy relevance of ESG research, enabling firms to plan long-term sustainability investments with better foresight and risk mitigation.

7. Conclusion

This research addressed the challenge of understanding how ESG (Environmental, Social, and Governance) integration influences both financial performance and brand trust through the proposed SEBAS (Strategic ESG-Brand Alignment Score) framework. The core problem lies in the fragmented evaluation of ESG disclosures without adequately connecting them to stakeholder sentiment or strategic brand metrics. From the results, firms in the 71–80 ESG score range achieved the highest brand trust index (86.98), whereas those in the 50–60 range reported the highest ROA (9.7%), suggesting that moderate ESG adoption can yield strong profitability. Regression analysis confirmed that SEBAS Score ($\beta = 2.157$) and ESG Score ($\beta = 1.043$) are the most significant predictors of financial performance, while sentiment analysis showed positive sentiment (56.3%) aligns with higher brand trust (83.89). These findings carry strong managerial implications, highlighting that firms should strategically align ESG initiatives and branding efforts to maximize both market valuation (Tobin's Q up to 1.95) and consumer confidence. However, limitations include the sectoral scope and a lack of longitudinal data, which may constrain the broader applicability of these results. Future research should expand into industry-specific and cross-country analyses, while leveraging advanced AI-driven sentiment tracking to refine predictive models. Ultimately, this study emphasizes that ESG is not merely a compliance metric but a strategic driver of both financial growth and long-term brand equity.

Authors' Contributions

All the Authors have contributed equally.

Disclosure Statement

The authors declare that there are no financial, professional, or personal conflicts of interest that could have appeared to influence the work reported in this article.

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Data Availability Statement

The dataset generated and analyzed during the current study is available from the corresponding author upon reasonable request.

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