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Master Thesis: The Impact of ESG-Focused Communication Strategies on Consumer Trust and Financial Performance

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Abstract

The research investigates how Environmental, Social and Governance (ESG) communication strategies affect consumer trust and short-term financial performance. It evaluates 90 corporate campaigns through stakeholder and signaling theory frameworks by studying 65 ESG initiatives and 25 non-ESG initiatives across different business industries. Social media comments from YouTube and Twitter are collected and processed through natural language processing to determine consumer sentiment, and purchase intention, while an event study evaluates the abnormal returns associated with campaign announcements. Results show that, on average, ESG-themed advertisements do not outperform standard advertising methods. However, theme diversity is important, as study showed that environmental campaigns typically present neutral and slightly more positive responses than governance campaigns. Additionally, some types of campaigns are found to cause negative public reactions, or backlash, depending also the industry. The market did not experience stock price movements from ESG campaigns as investors tend to engage more with information relating to financial metrics. The research suggests that companies which maintain authentic ESG practices through their campaigns will build customer trust and create long-term value, but fake ESG initiatives will damage reputation. This study contributes by establishing a connection between financial market data and social media sentiment in real time, while also offering managerial recommendations about designing the appropriate ESG advertising.

Keywords: ESG communication, consumer trust, financial performance, social media sentiment, event study analysis

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Introduction

Traditionally, the primary goal of corporations focused on profit maximization according to Milton Friedman (1970). However, societal expectations for businesses have been expanded, as stakeholders now evaluate companies not only on their financial performance but also on their social and environmental responsibility (Aguinis & Glavas, 2012). The concept of Environmental, Social, and Governance (ESG) principles was formally introduced in the 2004 United Nations report Who Cares Wins, and since then, it serves as a primary assessment tool for companies. The evaluation of ESG performance by investors has become essential tool for determining long-term trust and ethical alignment, while consumers are becoming more aware of how their purchasing behavior impacts society. Many consumers choose to support businesses which demonstrate social and environmental responsibility and may avoid or even boycott those that do not meet these standards. As a result, the commitment to ESG has evolved into a major business influence that influences how companies are perceived and funded, while also directly affects their reputation, stakeholder relations, and market opportunities (Kotsantonis et al., 2016).

Businesses implement advertising campaigns to showcase their ESG commitments with the aim to attract environmentally conscious customers and enhance brand reputation. However, the actual business performance effects of ESG-focused marketing strategies remain a topic of ongoing discussion. Research indicates that organizations which demonstrate ESG performance through clear communication will generate better business outcomes. For example, a meta-analysis of 2,000 studies revealed that 90% of ESG practices have a neutral or positive correlation with corporate financial performance (Friede et al., 2015). From the marketing perspective, experiments show that consumers show stronger brand trust and purchase willingness when companies share their ESG information transparently (Waites, 2025).

On the other side, ESG communication can bring significant risks when perceived as “greenwashing”. Greenwashing occurs when companies present false information to stakeholders about their environmental and social responsibility efforts (Spaniol, 2024). When consumers recognize misleading claims, they feel betrayed, leading to brand embarrassment or even aversion (Khandai et al., 2025).

This thesis investigates the unclear effect of ESG-focused communication on stakeholders. Specifically, it examines the impact of consumer trust on short-term financial performance. The dependent variables are

consumer sentiment, purchase intentions and market variables, while the key independent variables are the characteristics of ESG communication, such as theme, platform, reach, while also variables relating to the companies, such as the industry that represent and their ESG risk score. Building on the discussion above, this study addressing the following research question:

RQ: *How do ESG-focused communication strategies impact consumer trust and a firm's financial performance?*

This question is further split into two specific sub-questions:

RQ1: *How do ESG-focused communications influence consumer sentiment and trust, particularly as expressed on digital platforms?*

RQ2: *What effect do ESG-focused communication initiatives have on a company's financial performance?*

1.2 Practical Relevance

This study delivers useful information to managers, investors, and society. The practice of ESG communication enables managers and marketers to build customer trust while also attracting new customers. According to research, sustainable products increase consumers' willingness to pay more, which not only boosts loyalty but also increases profit potential (Saija & Daniotti, 2025). At the same time, companies which actively share their ESG actions to the public are more likely to gain long term loyalty, as transparency protects their reputation from misinformation that could harm their brand image.

From an investor's view, the way companies handle ESG communication directly affects their perception of their responsibility and risk management capabilities. Studies confirm that high-quality investor relations combined with robust ESG reporting tend to receive higher ESG ratings and investor confidence (Kim et al., 2025). Conversely, poor execution or even the absence of ESG communication may provoke distrust and lead to lower market valuation.

Finally, the societal impact of ESG communication stems from its ability to create accountability and transparency. Public reporting on ESG goals exposes the companies to public scrutiny, which makes their sense of responsibility stronger. However, when communication is misleading, society is harmed because it creates skepticism and undermines in general every sustainable and genuine initiative.

1.3 Academic Relevance

This subject has a significant academic relevance, as it contributes to marketing, finance, and methodological literature. Marketing research shows that authentic ESG initiatives lead to higher trust levels and satisfaction among consumers (Nugroho et al., 2024; Waites, 2025). To extend this pattern, this thesis uses Natural Language Processing (NLP) to analyze real-time social media sentiment and captures instant reactions from users. In addition, it separates the three ESG (environmental, social, and governance) dimensions to identify which type of information generates more user responses and engagement.

Previous research on finance has extensively examined how ESG communication relates to financial performance. Empirical studies and meta-analyses, generally find positive or neutral relationships between ESG and financial outcomes like profitability, stock returns, or firm value (Friede et al., 2015). However, most of this finance literature uses ratings or disclosures to measure ESG performance, which are inconsistent and rarely updated, making it difficult to understand how markets react to ESG issues in real time (Dorfleitner & Zhang, 2024). This study uses an event-study approach to measure instant stock market reactions to ESG communication.

Finally, the research framework combines marketing principles with financial analysis and sustainability into a single theoretical framework. It establishes consumer sentiment as the link between market performance and consumer trust through its sentiment analysis with event-study methods. The analysis relies on stakeholder theory, which claims that firms gain support from engagement with stakeholders (Freeman, 1984) and signaling theory, which support that authentic communication reduces information asymmetry (Spence, 1973). Moreover, it explains how transparent communication builds credibility and fake messages damage it, based on previous studies about corporate sustainability which identified social commitment initiatives as strategic signals (McWilliams & Siegel, 2001).

The structure of the thesis is divided into seven chapters. Chapter 2 reviews existing relevant literature on ESG communication, while Chapter 3 develops the conceptual framework and hypotheses. Chapter 4 explains the methodology and the research design with Chapter 5 to present the results of the empirical analysis. Chapter 6 discusses the research findings and their connection to existing literature, while also discusses imitations, proposes future research and offers managerial recommendations. Finally, Chapter 7 concludes the thesis by summarizing the main contributions.

Literature Review

Environmental, Social, and Governance (ESG) is generally defined as a framework of non-financial criteria that are used to evaluate corporate behavior and performance in terms of sustainability, social responsibility, and ethical practices (Kotsantonis et al., 2016). The formal introduction of ESG introduced in 2004 United Nations report "Who Cares Wins," which emerged from collaborative efforts between major financial institutions and the UN Global Compact. Since then, ESG has become a key component of corporate strategy and investment, as stakeholders now demand businesses to create positive social and environmental impact alongside financial performance (Ipsos, 2024).

The ESG framework consists of three interrelated dimensions, each addressing different aspects of corporate sustainability and responsibility, as illustrated in Table 2.1

Table 2.1 ESG Framework Components and Key Areas

Component	Definition	Key Focus Areas	Example Metrics
Environmental (E)	Company's impact on natural environment and climate	Climate change, resource efficiency, waste/pollution management	Carbon emissions, energy use, recycling rates
Social (S)	Company's relationships with stakeholders and society	Labor practices, diversity and inclusion, human rights.	Employee diversity, gender pay gap, health & safety records
Governance (G)	Company's systems of controls and accountability	Board independence, transparency and business ethics	Board composition, executive compensation, anti-corruption policies, shareholder rights

Source: Compiled from Friede et al. (2015), Wang et al. (2023), and Sustainalytics (2024)

2.2 ESG differentiation from related terms

To understand deeper the concept of ESG, it is necessary to investigate the earlier approaches. The initial discussions of corporate responsibility date back to the middle of the 20th century through Bowen's (1953) proposal that businesses should fulfill social obligations in addition to generating profits. The concept of Corporate Social Responsibility (CSR) emerged from this initial idea to describe how businesses should use their resources for societal and environmental improvement. The CSR Pyramid developed by Carroll (1991), divides corporate responsibilities into layers for economic, legal, ethical, and philanthropic reasons. However, CSR lacks the structured measurement framework and investment integration that characterizes ESG.

A narrower definition of CSR which focuses exclusively on monetary commitments is corporate social investment (CSI). CSI refers to business initiatives that address social issues and usually involves providing direct financial contributions to social welfare, healthcare, education, or community development initiatives (Warhurst, 2001). CSI represents only a part of the full stakeholder engagement that ESG includes and addresses responsibility issues mainly through philanthropy.

The concept of Sustainability developed into a broader framework that combines economic growth, social justice, and environmental protection. The World Commission on Environment and Development (WCED, 1987) introduced a fundamental definition of sustainable development in the Brundtland Report, as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs.". Elkington (1997) expanded this idea with the "triple bottom line", people, planet, and profit, which went beyond the limited philanthropic focus of CSR and CSI.

Finally, ESG (Environmental, Social, and Governance) occurred in the 2004 UN Global Compact report Who Cares Wins as a more structured and investor-oriented framework. ESG is the process of transforming these more general sustainability goals into measurable criteria which enable businesses and stakeholders to monitor performance. Unlike CSR or CSI, ESG operates within corporate strategy, governance systems, and capital markets, so its communication functions as a vital tool for influencing stakeholder choices.

The comparison between CSR and ESG appears in Table 2.2 through three dimensions which include orientation and measurement and accountability. Although the two concepts are often used together or viewed as complementary, the main difference between CSR and ESG lies in their approach. CSR

operates as a more voluntary value-based system, while ESG uses quantitative metrics to support its investor-focused framework (Kaźmierczak, 2022). Other concepts like sustainability and corporate social investment (CSI) are related, but they represent either a more general (Sustainability) or more specific (CSI) approaches.

Table 2.2 Comparison of CSR and ESG

Aspect	CSR	ESG
Orientation	Voluntary, value-driven commitment to society and environment	Structured, investor-oriented framework for sustainability
Measurement	Primarily qualitative and narrative reporting	Quantitative, comparable metrics and ratings
Accountability	Emphasis on ethics, philanthropy, and corporate citizenship	Integration into governance, regulation, and capital markets

Source: Carroll (1991), Kaźmierczak (2022), Kotsantonis et al. (2016), and Greenomy (2023).

2.3 Theoretical Framework

The research investigates ESG communication effects on consumer trust and financial performance through two essential theoretical frameworks. The first is the Stakeholder approach, which serves as the primary theoretical framework to evaluate ESG communication effectiveness.

Stakeholder theory, which was originally first proposed by Freeman (1984), claims that companies have obligations to all parties that are affected by their business activities, not just shareholders. These parties can include stakeholder groups like employees, customers, suppliers, communities, and the environment. Freeman's stakeholder concept reshaped the conventional shareholder primacy model. Companies that interact with stakeholders and fulfill their expectations will generate support and trust which leads to financial benefits (Lins et al., 2017). In ESG communication context, stakeholder theory clarifies why companies promote their environmental, social, and governance initiatives in order to show that they are in line with the stakeholders' values and concerns (Du et al., 2010). Stakeholders maintain their support and loyalty when they perceive ESG communications as genuine responses to their concerns instead of marketing tactics.

Signaling theory, introduced by Spence (1973), provides a second crucial theoretical framework for understanding the effectiveness of ESG. The theory emphasizes the use of communication by

organizations to reduce the information asymmetry that exists between them and their stakeholders. Signaling theory explains how businesses use a variety of methods to communicate their quality, ethical behavior, capabilities, and intentions to external stakeholders who are unable to observe these attributes directly. The success of these messages depends on their authenticity. Through ESG communications organizations send reliable signals about their quality standards and risk management abilities and strategic direction which stakeholders cannot verify through other channels. (Connelly et al., 2011). Table 2.3 provide more information about how these theories are related to research questions.

Table 2.3 Theory Application for Research Questions

Theory	Application in ESG Communication	RQ1: Consumer Trust	RQ2: Financial Performance
Stakeholder Theory	ESG communication show that firms listen to different stakeholder needs	Consumers are key stakeholders, and their trust affect firm value	Investors value higher companies that meet consumer expectations
Signaling Theory	ESG messages act as signals of quality and responsible management.	Clear ESG communication informs consumers about credibility.	ESG signals reduce information asymmetry for investors

Source: Freeman (1984); Spence (1973); Connelly et al. (2011)

2.4 ESG communication challenges

One of the biggest risks of ESG advertising is Greenwashing, which refers to making false or misleading statements about environmental or social practices (Delmas & Burbano, 2011). In simpler terms, greenwashing happens when a business presents itself as more ethical or sustainable than it is to distract consumers from their actual actions. Customers and investors, feel betrayed when they understand that a company's ESG claims are false and misleading. Once trust has been damaged in this way, it is hard to restore. The expansion of ESG marketing has led to more greenwashing cases which harm stakeholder confidence (Lyon & Montgomery, 2015).

Greenwashing has contributed to stakeholder skepticism for ESG communications, making consumers demanding proof of companies'actions to validate their claims (Nyilasy et al., 2014). This skepticism can create a general lack of trust about sustainability efforts, not only about individual companies but on a

broader level as well (Delmas & Burbano, 2011). When stakeholders notice that a company's actions do not represent its claims, backlash occurs, which is an extreme case of skepticism that can bring financial and reputational costs. Digital platforms make backlash easier by allowing rapid information to spread, resulting in negative consumer sentiment, brand damage, and financial fluctuations (Parguel et al., 2011).

Another big challenge of ESG communication is measuring ESG performance, as it is really crucial for how stakeholders interpret and respond to ESG communications (Kotsantonis et al., 2016). Different rating agencies use various methods for data collections, analysis and scoring, which frequently results in inconsistent evaluations of companies. For example, MSCI uses a risk-based scale that fluctuates from CCC to AAA, emphasizing a company's exposure to ESG risks and how it manages compared to other businesses. (MSCI, 2023). Sustainalytics offers a numerical "risk rating" with lower scores indicating better ESG risk management, as ESG issues differ by sector, (Sustainalytics, 2023). Refinitiv, based on publicly available disclosures, assigns scores across the environmental, social, and governance pillars, emphasizing on transparency (Refinitiv, 2022). These differences raise concerns about reliability as the same company can receive different ratings based on the provider (Berg et al., 2022).

2.5 ESG Advertising and Consumer Trust

The delivery of ESG-focused communication to consumers can reach through multiple ways, such as an advertising campaign, social media messaging or corporate reports. The messages companies send about their environmental, social and governance practices interact with stakeholder reception and establish an important connection between them. Companies operating in the digital era, where customers react instantly on social media, need to handle their ESG content delivery with care because their choices directly influence what stakeholders think about their business. (Lee et al., 2024).

The research studies presented in Table 2.5 evaluate the impact of ESG communication on consumer sentiment. The table presents the research design, methods, key findings, and implications relating to the first research question.

2.5 Literature on ESG Communication and ConsumerTrust

Study	Method	Key Finding	Effect	Relation to RQ1
Sen & Bhattacharya (2001), JMR	Experiments, USA	Initiatives with responsibility could increase trust only if they perceived authentic	Mixed	Shows that authentic ESG increases trust or harm depending on perception
Becker-Olsen, Cudmore & Hill (2006), JBR	Experiments, USA	Poorly executed CSR messages harm brand evaluation while authentic ones improve trust.	Mixed	Highlights importance of fit and authenticity in ESG advertising.
Ellen, Webb & Mohr (2006), JM	Survey, USA	Consumers consider company motives (value-driven vs egoistic)	Positive	Stakeholders evaluate motives and transparency
Delmas & Burbano (2011), CMR	Conceptual article	Provides the definition of greenwashing	Negative	Shows how and why false claims lead to stakeholder backlash
Chen & Chang (2013), JBE	Survey, Taiwan	Greenwashing increases consumer confusion, risk and decreases trust.	Negative	Presents risks of misleading ESG messages
Nyilasy, Gangadharbatla & Paladino (2014), JBE	Experiment, USA	Misleading green ads reduce credibility.	Negative	Shows ESG ads must be compatible with actions
Schmuck, Matthes & Naderer (2018), JBR	Experiment, Germany	False ESG claims damage trust & purchase intentions	Negative	Proves exaggerated claims influence consumer trust

Note. Studies included are from high-quality peer-reviewed journals (e.g., JMR, JM, JBR, CMR, JBE).

Research into ESG and CSR communication effects has expanded substantially throughout multiple years. Studies from the early period show that authentic communication messages with proper design led to positive consumer responses but misleading messages create doubt among consumers (Sen & Bhattacharya, 2001; Becker-Olsen et al., 2006). Further research, using surveys and experiments proves that consumer trust depends on both transparency and motives, but false claims destroy trust (Nyilasy et al., 2014; Schmuck et al., 2018). More recent contributions support that organizations which demonstrate strong digital ESG initiatives, can gain customer trust and maintain loyalty (Kousar et al., 2025). In summary, companies that verify their statements through reliable data sources build customer loyalty, but greenwashing practices damage their corporate image.

2.6 ESG Communications and Financial Market Reactions

ESG communications do not only affect consumers but also investors who use this information to make decisions. Investors use ESG factors to evaluate how firms manage risks, build trust and create long-term value. A 2024 Russell Investments manager survey shows that ESG has become a standard investment consideration, as only 3% of asset managers now exclude ESG from their decisions while this number was 28% in 2020. This change in investor behavior means that ESG communication can direct their sentiment and therefore, the stock market performance.

The literature highlights three important patterns of how markets react to ESG communication methods. The first pattern includes the asymmetric investors' responses. Negative ESG news tends to decline stock returns, while positive announcements generate minimal or insignificant gains (Krüger, 2015; Capelle-Blancard et. al, 2019). Second, companies with prior positive ESG/CSR performance appear to be safer during periods of crises. Analysis from both the 2008-09 financial crisis and the COVID-19 pandemic, shows that companies with stronger ESG profiles not only maintained better stock performance, but also experienced smaller losses. (Lins et al., 2017; Broadstock et al., 2021). Lastly, research shows that ESG communication can improve market liquidity and reduce the perceived risk, which helps explain why ESG communications affect market reactions (Wang et al., 2023).

Table 2.6 summarizes research which examines deeply the relationship between ESG communications and financial market performance. The table presents the study design, methods, key findings, and implications for the second research question.

2.6 Literature on ESG Communication & Financial Markets

Study	Method	Key Finding	Effect	Relation to RQ2
Krüger (2015), JFE	Event study on U.S. firms	Markets react weakly to good CSR/ESG news, but strongly to bad news.	Asymmetric	Shows market responds more to negative ESG events
Capelle-Blancard & Petit (2019), JBE	Event study on ESG news (global sample of 33,000 firm news events)	Negative ESG events decrease market value. Positive events show no significant impact	Asymmetric	Confirms market strongly responds more to negative ESG events, highlighting risk
Lins, Servaes & Tamayo (2017), JF	Crisis analysis, Global	Higher CSR firms had better stock returns during the crisis	Positive	Shows that responsible practices act as an insurance during crises.
Broadstock, Chan, Cheng & Wang (2021, FRL	Event study during COVID-19, Global	Better ESG ratings had smaller COVID-19 market declines	Positive	Shows that ESG provides resilience during crisis periods
Wang, Zhou, Zhang & He (2023), PBFJ	Panel data, China	Higher ESG ratings improve stock liquidity	Positive	ESG performance reduces information asymmetry
De Vincentiis, P. (2024), RIBAF	Probit model, Global	Companies hide bad ESG news but promote good news during market volatile	Mixed	Relates ESG news to volatility around events

Note. Table emphasizes peer-reviewed, high-quality finance outlets (JFE, JF, JBE, FRL, PBFR, JIMF)

2.7 Synthesis of Literature and Identification of Gaps

The literature review presents an important connection between ESG communications and stakeholder reactions. On the consumer side, when companies communicate their ESG messages in transparent ways, consumers' trust is increased, leading to brand trust. However, when these messages are received as greenwashing, they can undermine trust and lead to backlash (Delmas & Burbano, 2011).

On the investor side, bad ESG news can decline stock prices, while good ESG announcements remain insignificant (Capelle-Blancard & Petit, 2019). These findings can be explained through stakeholder theory, which explains why it is important to meet stakeholders' expectations and signaling theory which shows that ESG messages can reduce information asymmetry between companies and their audiences.

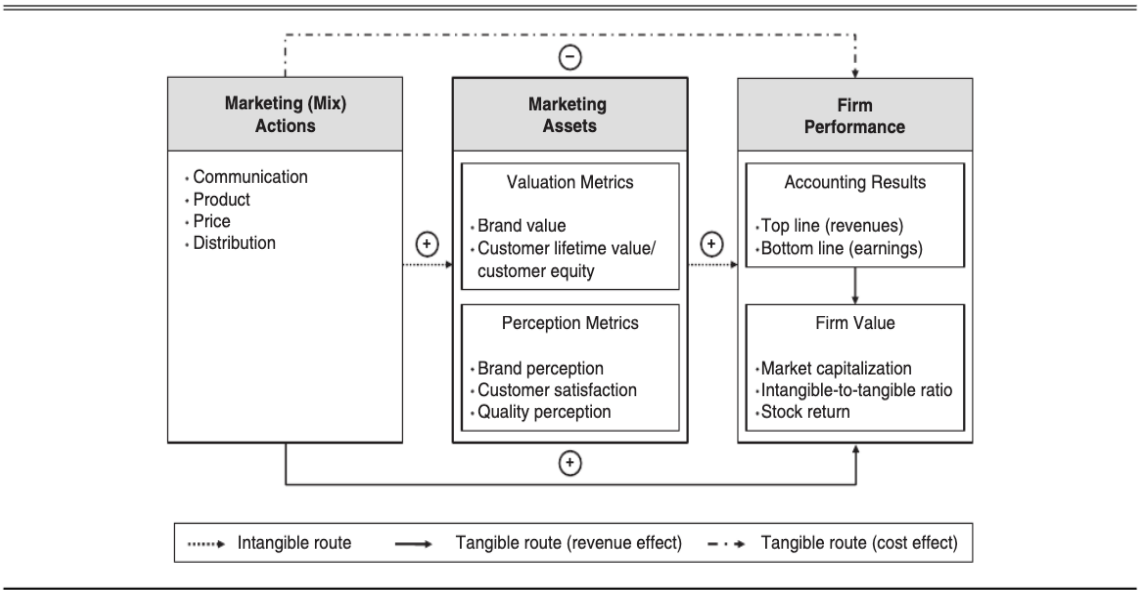
Despite this evidence, several gaps remain. Most studies analyze consumer or market reactions separately rather than combining them in a framework. Moreover, most of the research relies on surveys or experiments rather than real-time sentiment and immediate reactions. Many studies treat ESG concepts as a single construct, and not separated, which is a problem as each theme can produce different reactions (Lee et al., 2024). In addition, not much research has directly compared ESG-focused campaigns against non-ESG advertising to determine weather ESG content produces unique effects on trust and performance or if positive messaging in general causes these results.

This thesis aims to address these gaps by combining immediate consumer reactions on social media and with short term investor reactions in financial markets. Additionally, it evaluates four types of campaigns which include environmental (E), social (S) and governance (G) and non-ESG content for comparison purposes. This design enables researchers to determine how different types of ESG advertisements affect public sentiment and if ESG content has different effects compared to traditional advertising.

Conceptual Framework and Hypotheses

Literature reveals that both consumer trust and financial performance can be impacted by ESG-focused communication. Stakeholder and signaling theory interact closely in the relationship between ESG messages and stakeholders. Both theories highlight the important role of authenticity and the risks of the lack of it. People will possibly react negatively to ESG communications if they perceive it as misleading (Delmas & Burbano, 2011). This behavior may be captured in the stock market as risk is increasing. The financial market tends to react more to bad ESG behavior than it appreciates good communication. The research uses Edeling & Fischer (2016) marketing framework to study ESG advertising effects on firm performance, presented in Figure 1.

Figure 1 Theoretical Framework



The marketing action in this context includes ESG communication and the way it is communicated. These actions produce marketing assets which stakeholders can observe through perception and valuation metrics. The perception metrics reflect stakeholder reactions to the campaign, including trust levels and brand sentiment while valuation metrics show how these perceptions lead to actual consumer actions such as consumer reactions and purchase intentions.

The model also demonstrates how these marketing assets link to firm performance. Investors show market-level responses through abnormal returns and short-term stock price movements. Financial performance results from consumer trust and purchase intentions can drive revenue growth and sales increases. The adapted framework demonstrates how ESG communication affects both investors and consumers which leads to financial results and business success.

According to the literature review and the conceptual framework, consumer trust is supposed to be increased when, it is received as authentic, suggesting the following research hypothesis:

H1*: ESG-focused advertisements positively impact consumer trust and engagement.*

The foundation for this hypothesis is based on stakeholder theory's core idea that companies which create value for multiple stakeholders will receive support and loyalty (Freeman, 1984). Signaling theory (Spence, 1973), presents the mechanism that companies use to build this trust. Companies need to disclose their ESG practices to stakeholders because audiences lack direct access to verify these signals. When those signals are well received by the public, they can create stronger trust results and reduce doubts about the company's actual nature and goals, as literature proposes. The concept of value congruence confirms this pattern. Research in consumer psychology shows that people feel closer and create emotional bonds when they believe a brand's values align with their own (Chaudhuri & Holbrook, 2001). People demonstrate their trust through positive engagement by participating in online communities, sharing positive word-of-mouth and showing purchase intentions. Consumers are more likely to engage with a brand, refer it to others, or even pay higher prices when they have emotional connection to it (Brodie et al., 2011). More recent research studies emphasize this by demonstrating that authentic advertising increases commitment and trust. However, ESG communication can bring the opposite effect if it is perceived as misleading, or not compatible with the company's real practices.

In accordance with this, the alternative hypothesis that follows is proposed:

H1$_a$: *ESG advertisements create negative consumer sentiment if perceived as inauthentic*

This alternative hypothesis, based on the idea of greenwashing and its psychological impact on consumer behavior, highlights the negative aspects of ESG communication. It is connected to signaling theory which proposes that if a “signal”, the advertising claim in this case, is not transferred or matches the action, consumers will reject it. Stakeholder theory also explains that firms which do not meet stakeholders’ ethical expectations, can lose their support and face reputational risks. Consumer skepticism, which is created by greenwashing, has a central role. People react negatively when they

believe that ESG messages are motivated more by self-interest than by real concern. According to research, this kind of skepticism lowers brand loyalty, trust, and positive interaction (Nyilasy et al., 2014). In those cases, credibility is lost, which justifies the reason behind $H1_a$ predictions about negative consumer reactions engagement.

In addition to consumer trust, ESG information can also influence financial performance, including investors' behavior. ESG advertising is inconsistent and can create risk. Accordingly, the following hypothesis is formulated:

H2: *ESG advertising can trigger short-term fluctuations if it creates skepticism.*

Financial markets react to ESG messaging in more complicated and unpredictable ways than consumers, as they are more sensitive to information that seems unclear or possibly misleading. A key concept here is the asymmetry of market reactions, which refers to the investors behavior to respond more strongly to negative information than to positive information (Chan & Chen, 1991). This aligns with behavioral finance perspective, which presents that market reactions are not shaped only by fundamentals but also by psychological factors, sentiment and emotions. When a campaign provokes controversy or skepticism, there are concerns about reputational or regulatory risk that can lead to short-term volatility, as investors might reconsider the firm's profile (Shiller, 2003). Signaling theory also applies here. ESG messages function as a signal about management quality, long-term thinking, and stakeholder awareness. When the signals are unclear or opportunistic, they increase skepticism and produce short term risks rather than stability. This explains why companies can't simply announce ESG initiatives and expect positive market reactions, as the market evaluates not just what companies say, but how believable those statements appear. The risk of being perceived inauthentic is larger than the potential benefits of positive messaging. Although evidence shows that stock performance is impacted by negative ESG events, it also reveals that positive ESG advertising is much less impacted (Capelle-Blancard et al., 2019).

This asymmetry in markets suggests that investors do not consider ESG initiatives significantly unless they include financial information. This formulates the hypothesis:

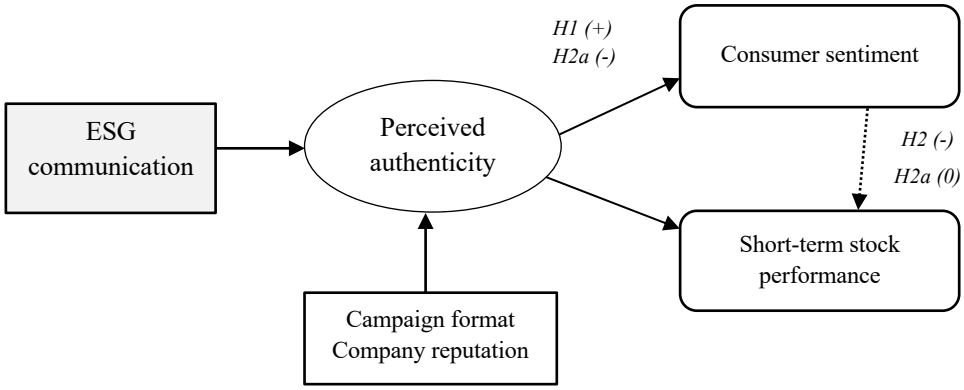
$H2_a$: *ESG-focused advertising has a minimal or insignificant impact on short-term returns.*

This hypothesis is consistent with H2 and literature review as it shows that ESG advertising by itself does not have the power to move stock prices.

Signaling theory (Spence, 1973) can explain this effect. For the signals to influence investors, they need to be credible and have information which is relevant to financial outcomes. Most campaigns with ESG messages, present values and not changes such as new revenues or cost savings. Stakeholder theory also suggests that companies must create value for all stakeholders. Investors' interest is more on financial metrics rather than ethical values. Advertising campaigns without measurable outcomes do not actually meet these standards, unless they become viral and are translated to business outcomes. This is explained by research, which observes that short-term abnormal returns remain unaffected by ESG positive messaging (Krüger, 2015).

The hypotheses are illustrated in the figure 2 below. It presents the anticipated impacts of ESG advertising on investor reactions and consumer trust.

Figure 2 Research hypothesis and expected effects



In conclusion, the conceptual framework predicts that ESG communications, viewed as genuine, will increase consumer sentiment, according to H1. On the other hand, ineffective or deceptive ESG communications have the risk of causing consumer backlash, as stated in $H1_a$ and bring negative short term market reactions as highlighted in H2. ESG communication builds long term trust rather than short term. This is supported by $H2_a$ which present that positive messaging do not have any short-term financial impact.

Data and Methodology

This study employs a mixed methods approach that combines social media sentiment analysis with financial event studies to address the developed hypotheses. By this way, it is investigated how ESG advertising campaigns impact stock market performance and consumer responses.

The methodology is based on a four-step process. The first 3 steps emphasize more on constructing the necessary variables to employ the analysis. These steps include gathering social media comments and campaign data, then evaluating sentiment and intentions to buy, and computing abnormal stock returns. Finally, the last step uses these measures to test the hypotheses and identify patterns. This method captures how ESG communications affect both financial results and consumer perceptions. The main steps in this study's methodology are provided in Table 4.1. The following sections provide detailed explanations of each step, while the table illustrates the flow from data collection to integrated analysis.

Table 4.1 Methodology Overview

Step	Main activities	Key Tools & Software	Key outputs
1. Data Collection	Identify ESG and non-ESG advertisements Scrap social media comments	Python: googleapiclient Services: YouTube API, Apify	Campaign datasets with comments and control variables
2. Sentiment Analysis	Text cleaning and processing Sentiment classification with NLP	Python: transformers, langdetect, emoji Models: RoBERTa, BART	Sentiment scores and Purchase Intent
3. Financial Event Study	Download stock data Estimate abnormal stock returns Event study methodology	R: quantmod, lubridate Data Source: Yahoo Finance	CAR and BHAR5 Control market variables
4. Statistical Analysis	Combine sentiment to financial outcomes with OLS regressions and robustness checks	R: lm, sandwich, car, effectsize	Regression coefficients Significance tests

4.2 Sample Selection and Data Collection

This study examines a sample of 90 marketing campaigns which gathered from 63 publicly traded companies launched from 2010 to 2024. These companies are operating in different industries, such as technology, consumer goods, retail, finance, automotive. Each observation corresponds to a specific marketing campaign, identified by company and campaign title, with various attributes. Each campaign has generated hundreds or thousands social media comments for sentiment analysis, while also including clear launch dates through company announcements or media coverage.

In accordance with the UN Global Compact framework (2004), ESG campaigns, make a clear mention of environmental sustainability, social responsibility, or governance themes in their messaging content, while non-ESG advertising concentrate more on brand attributes, pricing or product features. As a result of this classification process, 25 non-ESG campaigns form the control group, while 65 ESG-focused campaigns account for 72% of the sample.

ESG campaigns are divided into thematic categories. Environmental campaigns, which focus on sustainability and climate action include 19 observations, social campaigns which address sensitive topics such as inclusion and diversity and social justice represent the largest subset with 28 observations, and governance campaigns, which include improvements in transparency or ethical practices consist of 18 observations.

Companies are classified into 5 industry groups in accordance with the Global Industry Classification Standard (GICS; MSCI & S&P, 2023). The first group is Consumer Discretionary, which includes firms associated with apparel, retail, restaurants, and entertainment. This category has the biggest presence with 29 campaigns, or 32.2% of the sample. Consumer Staples, with 24 campaigns and 26.7%, represents firms with food, beverages, and personal care. Information Technology includes 13 campaigns (14.4%) related to electronics, digital platforms, and software providers. The Automotive category (14 campaigns, 15.6%), normally is included in Consumer Discretionary but due to its strong representation and different industry characteristics it is separated, ensuring a more balanced dataset. Finally, sectors with fewer cases, such as Financials and Communication Services are combined into a single category with the name Financial & Other Services. This covers 11.1% of the dataset, or 10 campaigns. The geographic distribution of businesses comes from North America (67%), Europe (28%), and Asia-Pacific (5%).

The analysis uses comments that are scraped from YouTube and Twitter for each campaign, using web-scraping and API-based methods, as suggested from research in digital marketing and information systems (Tirunillai & Tellis, 2012). For youtube, comments are scraped from companies' videos and channels, while for twitter, comments are collected through brand posts, or sometimes by advanced search terms with a 30-day event window. In situations where one platform provides insufficient coverage or indicates possible biases in customer responses, data are gathered from both platforms. This strategy offers a more accurate representation of customer sentiment. The final dataset consists of 49 YouTube campaigns, 22 Twitter-based, and 19 had a presence on both platforms. A categorical variable, named as Platform, enables a comparison of audience reactions across platforms.

Moreover, the study uses a qualitative popularity measure which ranges from Low to Very High. The popularity rating is determined by social media engagement metrics such as views, counts, like and comment. In this sample, 17 campaigns were classified as Very High popularity, 14 as High, 28 as Medium, and 31 as Low.

To evaluate the firms better, other control variables were included as well. Using Sustainalytics' ESG Risk Ratings, which range from 0 to 100, every company is identified by its ESG Risk Score, for its exposure to ESG risks. Higher scores mean more unmanaged ESG risk, or worse ESG performance while lower scores indicate better ESG management. This variable helps in considering the overall ESG profile of each company in the analysis.

Finally, financial data is collected from Yahoo Finance, because it provides daily stock prices, trading volumes, and market indices to complete coverage of market reactions.

4.3 Variable Measurement and Construction

After collecting the data, the next step is the construction of the key variables for consumer sentiment and financial performance. This involves natural language processing for the text comments and financial calculations for the stock returns. Table 4.3 provides variable definitions and measurement procedures for all variables in the empirical analysis.

Table 4.3 Variable Definitions and Measurements

Variable	Definition	Measurement	Source	Range
Dependent Variables				
Net Sentiment	Consumer sentiment balance	(% Positive - % Negative Comments)	YouTube/Twitter	-0.7 to 0.79
Purchase Intent	Purchase intention expression	(Purchase-positive comments / Total comments) × 100	YouTube/Twitter	17.8 to 91.9
CAR	Cumulative abnormal returns	Σ (Actual return − Expected return) over days 0–2	Yahoo Finance	-0.07 to 0.13
BHAR	Buy-and-hold abnormal returns	$\Pi(1+Ri, t) - \Pi(1+Rm,t)$ over days 0–4	Yahoo Finance	-0.12 to 0.10
Independent Variables				
ESG Theme	Campaign theme	Categorical: Environmental, Social, Governance, None	Content analysis	4 categories
Platform Type	distribution channel	Categorical: YouTube, Twitter, Both	Campaign information	3 categories
Popularity	Campaign reach / engagement level	Ordinal: Low, Medium, High, Very High	Engagement metrics	4 levels
ESG Risk Score	Company ESG risk exposure	Sustainalytics rating (0–100; lower = lower risk)	Sustainalytics	13.3 to 38.3
Control Variables				
PreRet20	Pre-event stock performance	Cumulative return over days [−21, −2]	Yahoo Finance	-0.37 to 0.16
PreVol20	Pre-event volatility	Average daily volatility over days [−21, −2]	Yahoo Finance	0.00 to 0.07
Volume Surprise	Trading volume anomaly	Z-score of event-day volume vs. 30-day average	Yahoo Finance	-0.50 to 2.60
Industry	Sector classification	Categorical: 5 GICS sectors	GICS	5 categories

4.4 Sentiment Analysis

To measure consumer trust, sentiment analysis is performed on the social media comments scraped for each campaign. The analysis uses 90 separate datasets, one for each campaign. Preprocessing steps, such as removing URLs, duplicate comments, user mentions, punctuation, and converting to lowercase, are applied for each one. Any non-English comments are detected and translated to English using the NLLB-200 neural machine translation model (Costa-jussà et al., 2022) to ensure consistency.

For sentiment classification, study uses the Twitter-RoBERTa base model, developed by Barbieri et al., 2020, as it demonstrates a great performance on social media text analysis, with F1 scores exceeding 0.90 on benchmark datasets. The model classifies preprocessed comments into positive, negative, or neutral categories with a confidence score for the prediction to determine the sentiment distribution.

However, many comments can be wrongly classified as neutral by the model, sometimes because they are short or factual. To improve the results and ensure that neutral classifications are accurate, any neutral comment with low confidence (below a 0.85 confidence score from the RoBERTa model), is subjected to secondary validation through zero-shot classification using BART-large-MNLI. (Liu et al., 2019; Lewis et al., 2020).

Zero-shot classification is a machine learning technique that uses a pre-trained language model, such as BART-large MNLI in this case, to assign a text to a category without requiring training data from those categories. For instance, in this study, the zero-shot model evaluates whether the comment expresses positive, negative, or neutral sentiment by formulating an hypothesis such as “This comment expresses a positive sentiment”. If the zero-shot model assigns high probability to one of the sentiment classes, then the comment's sentiment label is adjusted accordingly. This approach improves the sentiment analysis, as it reduces misclassification by recalculating and refining the sentiment for the campaign.

Purchase intent was also measured to capture consumer direct or indirect intentions to buy the advertised product or service. Established techniques in consumer behavior research, associate textual data with purchase tendencies (Netzer et al., 2012). This study uses again a hybrid approach that combines zero-shot text classification with keyword-based detection to identify purchase intentions.

Firstly, the keyword-based method searches expressions or words of positive intention such as “I want this” and “buy” and “need this.”. However, since intent can be expressed in multiple ways, zero-shot classification helps to catch indirect intentions in comments that lack clear terms of purchase, by testing with a hypothesis such as “This comment expresses intent to purchase the product”. In this way, even if a

comment does not include obvious keywords, it is marked as indicating purchase intent when a high probability was assigned to that statement.

The positive purchase intent for every campaign is computed, which is the percentage of comments in that campaign that are classified as positive purchase intent and serves as a dependent variable which reflects engagement. The focus is primarily on positive purchase intent, as it is a measure of how a campaign encourages consumers to move from positive sentiment to potential buying behavior.

Importantly, purchase intent is related to but not identical with sentiment. A comment can be positive without implying purchase, while another may imply intent even if it is written neutrally. For this reason, purchase intent is treated as a different but supplementary measure of consumer response, presenting more behavioral engagement rather than just emotional reaction.

After completing the sentiment analysis for each campaign, the resulting variables are aggregated and added to the main dataset. For each campaign, the proportion of positive, neutral and negative comments, and the percentage expressing purchase intent are included. These measures capture both emotional reactions and behavioral engagement with the campaigns.

The outcome of the analysis created the primary dependent variable, the Net Sentiment, defined as the difference between the proportion of positive and negative comments of each campaign:

$$NetSentiment_i = P_{\text{pos},i} - P_{\text{neg},i}$$

Net Sentiment score ranges from –1.0 to +1.0, with 0 indicating a balance. This score is the main indicator of campaign reception and consumer trust.

It is worth to mention that, while neutral proportions are retained in the dataset, they are not used. This is because the hybrid approach reclassifies many neutral comments, leaving a small percentage. Additionally, the two main concepts of interest, which is trust and skepticism, are not clearly expressed by neutral comments. This justifies why as a metric is not necessary. The net sentiment variable already captures the overall sentiment balance.

4.5 Financial Analysis

To evaluate the short-term financial impact of ESG advertising campaigns, this study applies event study methodology in accordance with finance research (Brown & Warner, 1985; MacKinlay, 1997). The event study framework separates abnormal stock price movements around campaign launches to capture the market's immediate response to advertising.

The event date (t=0) for each company was selected by using either the launch date of their campaign, or the next trading day if the launch was after-market hours, consistent with ESG event study literature (Capelle-Blancard & Petit, 2019). Expected stock returns are estimated using the market model.
For firm i on day t the specification is given by:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t}$$

Where $R_{i,t}$ is the return of stock $i, R_{m,t}$ is the return on the market index, usually S&P 500, and $\varepsilon_{i,t}$ is the error term. Parameters α_i, β_i are estimated by OLS over an estimation window of approximately 40 trading days (–60, –20) prior to the event, keeping enough data for stable estimates while also avoiding contamination from information too close to the event (Capelle-Blancard et. al, 2019).

The abnormal return (AR) is calculated according to the conventional practice in even study methodology (Brown & Warner, 1985), defined as the deviation between actual and expected returns:

$$AR_{i,t} = R_{i,t} - (\hat{\alpha}_i + \hat{\beta}_i R_{m,t})$$

In situations where the market model estimation may be less reliable, a market-adjusted model is also estimated as a robustness check (Krüger, 2015), defined as:

:
$$AR_{i,t} = R_{i,t} - R_{m,t}$$

The primary dependent variable is the cumulative abnormal return, CAR, which aggregates abnormal returns across the event window. For firm i over $t1$ days to $t2$, CAR is defined as:

$$CAR_i(\tau_1, \tau_2) = \sum_{t=\tau_1}^{\tau_2} AR_{i,t}$$

The main specification uses $CAR_i(0,+1)$ which, according to Krüger (2015), this 2-day window allows for investor information processing and takes into consideration campaigns that are announced after market hours for ESG events. A buy-and-hold abnormal return (BHAR) is also calculated. For firm i over days 0 to 4, this is given by

$$BHAR_i(0,4) = \prod_{t=0}^{4}(1+R_{i,t}) - \prod_{t=0}^{4}(1+R_{m,t})$$

This helps researchers to determine if the first market responses leave or persist. A BHAR5 close to zero indicates that any immediate impact holds in the days that follow, while a positive indicates that the stock's cumulative performance five days after the campaign exceeds expectations.

To better capture the investors' attention and market activity, a few additional metrics were also included. Abnormal trading activity is captured by Volume Surprise, which is defined as:

$$VolumeSurprise_i = \frac{Volume_{i,0} - \mu(Volume_{i,-30,-1})}{\sigma(Volume_{i,-30,-1})}$$

A high-volume surprise, a large positive z-score, means the campaign's launch triggered unusually high trading activity, signaling strong investor attention (either buying or selling). Moreover, Volatility Spike measures the change in return volatility between a short post-event window and a pre-event baseline, defined as:

$$VolatilitySpike_i = \sigma(Returns_{i,+1,+5}) - \sigma(Returns_{i,-20,-1})$$

Large values of these measures indicate unusually high levels of trading and volatility, consistent with prior evidence that such spikes often signal heightened investor attention (Barber & Odean, 2008). Other control variables include two pre-event performance controls. PreRet20 measures the cumulative return of each stock over the 20 trading days before the event (–21, –2) and captures recent momentum. PreVol20 measures the standard deviation of returns over the same period.

4.6 Statistical Analysis

The statistical analysis combines the sentiment metrics and financial performance measures created in the previous stages to test the research hypotheses. To investigate the study's hypotheses, the analysis sequence consists of summary statistics, regressions, hypothesis tests, and robustness checks. This approach combines text sentiment measures with abnormal return estimations, in line with event study methodologies in corporate communication and finance research (Tetlock, 2007).

4.6.2 Statistical Techniques and Analytical Framework

This study uses Ordinary Least Squares (OLS) regression as the main analytical approach to examine the connection between ESG communications, consumer sentiment and financial performance. OLS is a widespread method used in empirical finance as it produces interpretable coefficient estimates and when combined with strong inference techniques, remains valid even when classical assumptions are relaxed. Additionally, it works well with event study designs, where the goal is to estimate the size and importance of abnormal return responses while taking other factors into consideration (Campbell et al., 1997).

Furthermore, independent-samples t-tests are performed to determine if the mean values between two groups, such as ESG-non ESG, showed significant differences. These tests are implemented using Welch’s t-test, which does not assume equal variances and is more robust to heterogeneity (Field, 2013).

For comparison for multiple groups, one-way ANOVA models are conducted to test if mean sentiment differs across ESG themes. When omnibus F-test indicates significant difference, the study performs Tukey's Honestly Significant Difference (HSD) post-hoc tests to identify pairwise differences while controlling for multiple comparisons (Maxwell et al., 2017).

The study uses effect size measures for practical significance in addition to statistical significance testing. When group sizes are unequal, Hedges' g produces standardized mean difference estimates that are less biased than Cohen's d (Hedges, 1981). According to guidelines, the practical significance of observed differences is explained by small effects ($|g| \approx 0.2$), medium effects ($|g| \approx 0.5$), and large effects ($|g| \approx 0.8$).

4.6.3 Core Model Specifications and Research Process

To test the hypotheses, multiple models are performed to capture patterns. The first step builds models to investigate the effects of ESG on sentiment, purchase intentions and financial outcomes against non ESG models. In the second step, advanced models analyze ESG campaigns against non ESG but divided by themes. In the third step, authenticity and greenwashing risk analysis are implemented to check cases of backlash. Finally, the last step performs robustness checks, including industry-specific analyses and clustered standard errors. This sequential approach is useful for isolating specific impacts while also systematically increasing the complexity of models.

The main specifications link ESG campaign characteristics to sentiment outcomes. Model 1a captures this patterns with a binary ESG indicator and Model 1b with categorical ESG themes, specified as follows:

$$NetSentiment_i = \beta_0 + \beta_1\, ESGbinary_i + \beta_2\, ESGrisk_i$$
$$+ \gamma_{\text{industry}(i)} + \delta_{\text{platform}(i)} + \theta_{\text{popularity}(i)} + \varepsilon_i$$

Model 1b replaces the binary ESG indicator with categorical theme variables described as:

$$NetSentiment_i = \beta_0 + \beta_1\, factor(ESGtheme)_i + \beta_2\, ESGrisk_i$$
$$+ \gamma_{\text{industry}(i)} + \delta_{\text{platform}(i)} + \theta_{\text{popularity}(i)} + \varepsilon_i$$

Where β_0 is the intercept, βj represents the marginal effect of predictor *j*, *NetSentimenti* is the standardized sentiment score for campaign *i*, *ESGbinaryi* is a binary indicator (1 = ESG campaign, 0 = non-ESG), and *factor*(*ESGthemei)* captures theme category (Environmental, Social, Governance, non-ESG). *ESGriski* represents ESG risk score for campaign *i*, while γ *industry(i),* δ *platform(i)*, θ *popularity(i)* denote industry, platform, and popularity fixed effects, respectively. Finally, εi is the error term with robust standard errors.

Similarly, an alternative version of Model 1 is estimated, where all other covariates remain constant, but purchase intent is used as the dependent variable rather than net sentiment.

Financial outcomes are examined by Model 2, which regresses stock market reactions by ESG binary and sentiment. The core specification is:

$$CAR_i = \alpha_0 + \alpha_1 ESGbinary_i + \alpha_2 NetSentiment_i + \alpha_3 ESGrisk_i + \alpha_4 PreRet20_i + \alpha_5 PreVol20_i$$

$$+ \phi_{industry(i)} + \delta_{platform(i)} + \theta_{popularity(i)} + u_i$$

Similarly, Model 2b replaces the binary ESG indicator with theme variables described as:

$$CAR_i = \alpha_0 + \alpha_1 factor(ESGtheme)_i + \alpha_2 NetSentiment_i + \alpha_3 ESGrisk_i + \alpha_4 PreRet20_i + \alpha_5 PreVol20_i$$

$$+ \phi_{industry(i)} + \delta_{platform(i)} + \theta_{popularity(i)} + u_i$$

Where a_0 is the intercept, aj represents the marginal effect of predictor j, $CARi$ is the cumulative abnormal return for campaign i, $ESGbinaryi$ is a binary indicator (1 = ESG campaign, 0 = non-ESG) and factor($ESGthemei$) captures theme category. $NetSentimenti$ is the standardized sentiment score for campaign i and $ESGriski$ represents the firm-level ESG risk score for campaign i. $PreRet20i$ and $PreVol20i$ are pre-event controls for the 20-day cumulative return and return volatility, respectively. The terms $\gamma\ industry(i)$, $\delta\ platform(i)$, $\theta\ popularity(i)$ denote industry, platform, and popularity fixed effects, respectively, while ui is the error term with robust standard errors.

An alternative version of Model 2 is estimated, where all other covariates remain constant, but the dependent variable is the five-day buy-and-hold abnormal return (BHAR) instead of CAR.

To further investigate financial results, the study creates a classification framework that combines company's ESG risk evaluations with consumer sentiment outcomes with the aim to spot possible greenwashing cases and its effect on financial performance.

Specifically, when businesses have high ESG risk scores (above the mean) and negative net sentiment (below -0.2), the analysis generates a greenwashing risk indicator for ESG campaigns. The remaining ESG campaigns are categorized as clean ESG, and non-ESG campaigns. Then the analysis compares CAR and BHAR between clean ESG campaigns and greenwashing-risk campaigns by using independent t-tests and comparing the average outcomes among the three categories (Non-ESG, Clean ESG, and Greenwashing).

4.7 Robustness Checks and Additional Analyses

Several robustness checks and sensitivity analyses are conducted to make sure the findings' reliability. First, all regressions are tested for heteroskedasticity-consistent (HC1) robust standard errors (MacKinnon & White, 1985) to address potential violations of homoscedasticity.

Second, to consider within-sector correlation in investor responses, standard errors are clustered at the industry level using the CR2 method (Pustejovsky & Tipton, 2018). This method improves the robustness of hypothesis tests by minimizing the assumption of independent errors within industries and offering more trustworthy inference when the number of clusters is limited.

Third, financial returns, cumulative abnormal returns (CAR) and five-day buy-and-hold abnormal returns (BHAR), are winsorized at the 1st and 99th percentiles to control the influence of extreme firm-specific events (Kothari & Warner, 2007).

In addition, this study estimates alternative model specifications. For example, models include authenticity classifications or splitting into groups. Also, additional models test interaction effects such as ESG status with ESG risk score, or adding additional covariates. Industry-specific subsample analyses are conducted for sectors with at least ten campaigns, while also in financial analysis alternative event windows (such as -2/+2, -1/+1, and 0/+1) are tested to have a better picture of stock prices.

These robustness checks address key statistical concerns. Robust standard errors handle unequal variance, while industry clustering accounts for correlated responses within sectors. Winsorizing removes extreme outliers, and alternative specifications test whether results remain stable across different model setups. Together, these checks confirm that findings are not driven by statistical artifacts or unusual observations.

In summary, the methods utilized in this study for data collection, sentiment analysis, financial measurement, and statistical modelling were described in this chapter. A comprehensive structure for investigating how ESG advertising affects investor and consumer reactions is provided by the combination of event study methodology for stock performance and machine learning techniques for sentiment classification. The empirical results of these analyses are shown in the next chapter.

Empirical Results

Before testing the hypotheses, it is useful to understand the distribution and relationships of the key variables. Table 5.1 below presents summary statistics for the main variables of the 90 campaigns. These include the primary dependent variables and important independent variables.

Table 5.1Descriptive Statistics for Key Variables

Variable	mean	sd	min	max	N
netsentiment	-0.004	0.383	-0.703	0.786	90
purchase_percentage_intent	57.76	17.28	17.80	91.90	90
CAR	0.008	0.033	-0.071	0.127	90
BHAR5	0.006	0.037	-0.119	0.102	90
PreRet20	0.003	0.076	-0.371	0.163	90
PreVol20	0.017	0.011	0.004	0.071	90
esg_risk_score	22.28	5.17	13.30	38.30	90

The analysis of consumer sentiment reveals a combination of positive and negative reactions. The mean Net Sentiment from all campaigns is slightly below zero (−0.004 on the −1 to +1). The standard deviation reaches 0.38 which indicates wide variability, as some campaigns receive strong positive feedback, with maximum 0.78 but others receive intense negative feedback with minimum –0.7. The Purchase Intent is about 58% on average but with wide fluctuations. The mean ESG Risk Score of 22.3, classified as a Medium ESG risk level according to Sustainalytics.

On the financial side, the two-day CAR shows an average of 0.8%, with the worst performing campaign resulting in a -7.1% CAR while the best in 12.7% CAR. The 5-day BHAR shows a mean value of 0.6%, with standard deviation approximately 3.8%. Its range (-11.9% to 10.2%), matches the CAR results to show wide-ranging fluctuations, confirming that most campaigns produce small market effects, but specific events generate strong positive or negative investor responses. Low dispersion is seen in both measures, which is in line with event study findings that show modest short-term stock reactions. As for

the control variables, the volatility (PreVol20) and prior 20-day return (PreRet20) show little fluctuation, indicating steady pre-event market conditions.

A Pearson correlation matrix is used to investigate correlations between the primary variables and evaluate possible multicollinearity. As anticipated, there is a strong correlation between Net Sentiment and Purchase Intent, while CAR and BHAR are also highly correlated due to their overlapping event windows. The results are reported in Appendix Table A4

5.2 Consumer Trust Results

This section presents the empirical findings related to RQ1, beginning with basic comparisons before analyzing differences across ESG themes.

According to independent t-tests, consumer sentiment does not significantly differ within campaigns. The mean sentiment score for non-ESG campaigns (0.013) is slightly higher than ESG campaigns (-0.010), but this difference is not statistically significant ($t = 0.263$, $p = 0.794$). The negligible effect size (Hedges' $g = 0.059$, 95% CI [-0.399, 0.516]) confirms that ESG status alone does not meaningfully impact consumer sentiment.

A one-way ANOVA is performed to further investigate possible variations across ESG themes. Results show significance across themes ($F(2,63) = 4.534$, $p = 0.015$). Post-hoc comparisons indicating that Governance campaigns generate significantly lower sentiment ($M = -0.193$) than Environmental campaigns ($M = 0.176$), with a difference of -0.369 ($p = 0.013$). The difference between Social ($M = -0.055$) and Environmental campaigns approaches significance ($p = 0.10$), while Governance and Social campaigns do not differ significantly from each other ($p = 0.46$). Other pairwise differences are not statistically significant (Appendix Table A1).

Regression analysis provides more patterns to better examine the ANOVA and t-test results. The results presented in Table 5.2 use ESG themes versus non-ESG campaigns as the baseline, while holding constant platform, industry, popularity and ESG risk. The binary model and other diagnostics are reported in the Appendix table A2.

Table 5.2 Consumer Trust Regression - ESG Theme

	Net Sentiment		Purchase Intent (%)	
Variable	**Coef.**	**SE**	**Coef.**	**SE**
(Intercept)	0.718*	(0.282)	86.121***	(12.745)
factor(esg_theme)Environmental	0.017	(0.100)	-1.821	(4.844)
factor(esg_theme)Social	-0.187†	(0.106)	-10.086†	(5.085)
factor(esg_theme)Governance	-0.217†	(0.127)	-11.490*	(4.833)
esg_risk_score	-0.014†	(0.008)	-0.366	(0.375)
factor(popularity)Low	0.023	(0.125)	2.746	(4.827)
factor(popularity)Medium	-0.101	(0.114)	-5.191	(4.902)
factor(popularity)Very High	-0.263†	(0.143)	-9.639	(5.940)
factor(industry)Consumer Discretionary	-0.142	(0.106)	-4.218	(5.036)
factor(industry)Consumer Staples	-0.004	(0.115)	-2.734	(5.355)
factor(industry)Financial & Other Services	-0.357*	(0.166)	-19.065**	(6.903)
factor(industry)Information Technology	-0.384**	(0.144)	-20.218**	(6.891)
platformYoutube	-0.091	(0.112)	-6.884	(5.612)
platformBoth	-0.199	(0.122)	-5.600	(6.202)
Observations	90		90	
R^2	0.270		0.268	
Adjusted R^2	0.145		0.143	
F-statistic	2.157	(p = 0.02)	2.143	(p = 0.021)

***p<0.001, **p<0.01, *p<0.05, †p<0.1. Robust HC1 SE. Ref: Not ESG, Twitter

Table 5.2, shows both consumer models show modest explanatory power with approximately 27% of variance explained for both models, indicating that ESG campaign characteristics explain a meaningful portion of consumer reactions, though other factors remain important.

ESG campaigns do not always perform better compared to non-ESG campaigns. Environmental campaigns exhibit a slight positive coefficient ($\beta = 0.017$, $p > 0.10$), but this effect is not statistically significant. The most important finding is that governance and social campaigns may hurt consumer perceptions instead of helping. Governance campaigns perform worst, as they reduce sentiment by 0.22 points and purchase intent by 11.5 percentage points ($p < 0.05$). Social campaigns also present negative but weaker effects, lowering sentiment by 0.19 points and purchase intent by 10 percentage points ($p < 0.10$). This pattern suggests consumers view these campaign types with suspicion.

Some industries face more skepticism than others. Financial services and information technology companies have worse consumer reactions ($\beta = -0.357$, $p < 0.05$ and $\beta = -0.384$, $p < 0.01$ for sentiment respectively), with purchase intent dropping by approximately 19-20 percentage points compared to the automotive baseline. This implies that consumers are especially skeptical of ESG claims made by industries they believe to be less genuine or more focused on profits.

Moreover, companies with higher ESG risk scores receive additional consumer skepticism ($\beta = -0.014$, $p < 0.10$), confirming that past ESG actions make audiences more suspicious of new ESG initiatives. Platform and popularity variables present limited effects, indicating that how and where ESG messages are delivered matters less than what type of ESG message is being communicated.

Additionally, the binary comparison of ESG versus non-ESG (Appendix table A2) presents that ESG campaigns do not raise sentiment ($\beta = -0.102$, $p = 0.244$) and is only marginally negative for purchase intent ($\beta = -7.205$, $p < 0.10$), so the theme is what matters. Overall, ESG communication does not increase consumer trust (H1 not supported), and skepticism varies by theme (strongest for governance and weakest for social), which is partially consistent with H1*a.*

5.3 Financial Performance Analysis

The study then examines whether ESG advertising affects stock prices and if consumer sentiment plays a role in market reactions. This analysis addresses RQ2 regarding the relationship between ESG communication and financial performance.

The analysis first compares ESG and non-ESG campaigns using t-tests and found no meaningful differences in financial performance. ESG campaigns show slightly higher average CAR (0.88 basis points) versus non-ESG campaigns (0.44 basis points), but this difference is not statistically significant ($t = -0.644$, $p = 0.522$). The BHAR results are even closer (0.72 vs 0.59 basis points) and not significant ($t = -0.159$, $p = 0.874$).

When ESG campaigns are divided by theme using ANOVA, the results still show no significant differences between environmental, social, and governance campaigns for either measure (CAR: $F = 0.520$, $p = 0.597$; BHAR: $F = 1.690$, $p = 0.193$).

Environmental campaigns show the highest average returns (CAR = 1.48%, BHAR = 1.86%), followed by governance (CAR = 0.73%, BHAR = 0.72%) and social campaigns (CAR = 0.48%, BHAR = -0.10%), but these differences are not statistically significant. This indicates that markets don't really differentiate between what type of ESG message companies are sending and they do not affect short returns.

Table 5.3 presents the financial market regression results comparing environmental, social, and governance campaigns against non-ESG baseline. Both models show modest explanatory power, with 34.3% of variance explained for CAR ($F = 2.382$, $p = 0.006$) and 29.9% for BHAR ($F = 1.947$, $p = 0.029$). This indicates that ESG campaign characteristics and control variables explain a meaningful portion of immediate market reactions, though substantial variation remains unexplained.

Table 5.3 Performance - ESG Theme

	CAR		BHAR5	
Variable	**Coef.**	**SE**	**Coef.**	**SE**
(Intercept)	-0.034	(0.02917)	-0.00254	(0.03760)
factor(esg_theme)Environmental	0.014	(0.00924)	0.01402	(0.01117)
factor(esg_theme)Social	0.006	(0.00877)	-0.00055	(0.00972)
factor(esg_theme)Governance	0.010	(0.01060)	0.01143	(0.01181)
z_netsentiment	-0.004	(0.00309)	-0.00382	(0.00389)
esg_risk_score	0.000	(0.000)	0.000	(0.001)
factor(popularity)Low	0.001	(0.011)	-0.014	(0.013)
factor(popularity)Medium	-0.013	(0.011)	-0.022†	(0.013)
factor(popularity)Very High	-0.018	(0.011)	-0.027†	(0.014)
platformYoutube	0.011	(0.008)	0.011	(0.010)
platformBoth	-0.006	(0.009)	-0.009	(0.011)
PreRet20	0.108**	(0.034)	0.114*	(0.053)
PreVol20	1.292***	(0.279)	1.027**	(0.361)
factor(industry)Consumer Discretionary	0.021†	(0.011)	0.008	(0.012)
factor(industry)Consumer Staples	0.026*	(0.011)	0.007	(0.012)
factor(industry)Financial & Other Services	0.012	(0.018)	-0.001	(0.020)
factor(industry)Information Technology	-0.003	(0.014)	-0.019	(0.017)
Observations	90		90	
R^2	0.343		0.299	
Adjusted R^2	0.199		0.146	
F-statistic	2.382	(p = 0.006)	1.947	(p = 0.029)

***p<0.001, **p<0.01, *p<0.05, †p<0.1. Robust HC1 SE. Ref: Not ESG, Twitter

Results present that none of the ESG themes (environmental, social, or governance) have significant effects on either short-term (CAR) or slightly longer-term (BHAR5) stock returns. Environmental campaigns show the most positive coefficient ($\beta = 0.014$, $p > 0.10$), followed by governance and social campaigns, but all remain close to zero and insignificant. Interestingly, market value does not correspond to consumer sentiment. Social media sentiment had no relationship with stock returns in any of the models.

The net sentiment is consistently negative and non-significant across both models (CAR: $\beta = -0.0046$, $p > 0.10$; BHAR: $\beta = -0.0038$, $p > 0.10$), supporting H2a's expectation of minimal market impact.

The market control variables turned out to be more important. Prior 20-day returns show significant positive effects (CAR: $\beta = 0.108$, $p < 0.01$; BHAR: $\beta = 0.114$, $p < 0.05$), indicating that momentum matters more than message content. Most importantly, pre-campaign volatility (PreVol20) demonstrates the strongest relationship with returns across both models (CAR: $\beta = 1.292$, $p < 0.001$; BHAR: $\beta = 1.027$, $p < 0.01$). Regardless of ESG content, companies with higher volatility observe stronger market reactions, suggesting that firm-specific market dynamics totally outweigh any campaign effects.

Campaign popularity shows a negative pattern in the longer term window, with medium popularity (BHAR: $\beta = -0.022$, $p < 0.10$) and very high popularity campaigns (BHAR: $\beta = -0.027$, $p < 0.10$) showing marginally significant negative effects compared to high popularity campaigns. This confirms the pattern about campaign virality and critics.

Some industries have slightly better immediate responses. Consumer staples companies present significantly positive CAR values ($\beta = 0.0264$, $p < 0.05$), and consumer discretionary firms show marginally positive effects ($\beta = 0.0215$, $p < 0.10$) compared to the automotive baseline. However, these effects disappeared in the 5-day window. Platform and ESG risk variables effects remain insignificant in the financial model.

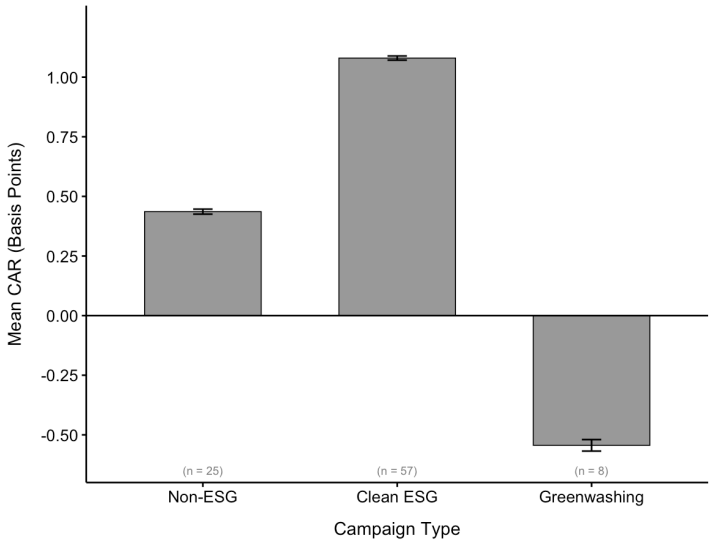
According to the binary ESG models (appendix table A3), ESG focus increased immediate returns (is_esg: $\beta = 0.0129$, $p = 0.076$) but not longer-term ones ($\beta = 0.0104$, $p = 0.219$), indicating that any beneficial effect is short. This pattern suggests temporary attentional effects instead of fundamental values.

5.3.2 Greenwashing and Authenticity

To examine whether authenticity concerns affect market responses to ESG campaigns (H2), the study analyzes financial performance across three campaign types: non-ESG, clean ESG, and potential greenwashing campaigns.

The study identified 8 out of 65 ESG campaigns (12.3%) as high greenwashing risk, based on companies with elevated ESG risk scores combined with strong negative consumer sentiment. Figure 3 illustrates the market reactions across the three campaign categories.

Figure 3 Market Reactions by Campaign Authenticity



Clean ESG campaigns receive the strongest positive market reaction (1.08 basis points), non-ESG campaigns performs moderately (0.44 basis points), while suspected greenwashing campaigns shows negative returns (-0.54 basis points).

However, statistical tests showed no significant differences between groups (all $p > 0.24$), likely because of the small number of greenwashing cases. The lack of statistical significance suggests that while directional patterns exist, markets don't systematically penalize suspected greenwashing with enough consistency to create statistically reliable effects.

5.4 Model summary

Table 5.4 summarizes the key findings from all regression models and statistical tests that this study performs. The table displays the primary findings for each model, the dependent variables analyzed, and the important independent variables tested for both research questions. To clearly determine which predictions were supported by the data, the final column compares these findings to the initial hypotheses.

Table 5.4 Comprehensive Model Summary

Model	Dependent Variable	Key Independent	Controls	Main Finding	Hypothesis Test
1a: Consumer Trust (Binary)	Net Sentiment & Purchase Intent	ESG Binary vs non-ESG	Industry, Platform, ESG Risk, Popularity	No ESG advantage vs non-ESG Industry effects	H1: Not supported
1b: Consumer Trust (Themes)	Net Sentiment & Purchase Intent	ESG Themes vs non-ESG	Industry, Platform, ESG Risk, Popularity	Social & Governance themes negative Industry effects	H1: not supported H1a: partially supported
2a: Financial Performance (Binary)	CAR & BHAR	ESG Binary vs non-ESG	Industry, Platform, Pre-event vars, Popularity, ESG Risk	Marginal ESG advantage, Industry and Market variables significant	H2: not supported H2a: Supported
2b: Financial Performance (Themes)	CAR & BHAR	ESG Themes vs non-ESG	Industry, Platform, Pre-event vars, Popularity, ESG Risk	No ESG theme advantages, Industry effects, market variables significant	H2: not supported H2a: Supported
3. Greenwashing Analysis	CAR	Campaign Type (3 categories)	Greenwashing filtered by ESG risk score & negative sentiment	Clean ESG > non-ESG > Greenwashing pattern	H2: only directional supported

Note: CAR = Cumulative Abnormal Returns; BHAR = Buy-and-Hold Abnormal Returns.

General Discussion

The research investigates how marketing efforts based on ESG elements impact customer trust levels and short-term financial performance. This chapter discusses the findings in the context of previous research, interprets their implications, discusses the limitations of the study, and makes recommendations for future research.

6.1 Summary of Findings for RQ1

RQ1: *How ESG-themed advertising campaigns yield higher consumer trust and more positive sentiment than traditional campaigns?*

The empirical evidence shows that ESG messaging by itself did not automatically improve audience sentiment or trust metrics compared to non ESG advertising. The research results fail to support Hypothesis 1, which predicts that ESG-themed content in advertisements would create higher consumer trust or positive sentiment when compared to non-ESG advertisements.

However, the research findings demonstrate that not all ESG content is equal. Environmental campaigns achieve neutral to positive reception, while governance campaigns generate significantly negative sentiment. Social campaigns fall between these extremes, more to negative but not significantly different from either pole. Post-hoc analysis confirmed that governance campaigns performed significantly worse than environmental campaigns This supports earlier research that found environmental initiatives are typically viewed more positively, while governance or low-fit initiatives can backfire (Becker-Olsen et al., 2006)

The regression results confirm patterns, while controlling for industry, platform, and campaign characteristics. It is also confirmed that Environmental campaigns have no significant effect on sentiment when compared to non-ESG. More specifically, both social and governance campaigns showed negative effects, suggesting that these themes harmed rather than improved consumer sentiment. Social campaigns reduced sentiment and purchase intent marginally, while governance messaging performed even worse, dropping purchase intent by over 11 percentage points.

In other words, the topics covered in an ESG advertisement influence how customers react. For example, the public shows stronger emotional engagement with environmental causes as they may connect with climate action and conservation efforts. Moreover, environmental messages are more accepted because they are easier to prove and feel more common. Businesses can demonstrate measurable results (more renewables, lower emissions), and consumers perceive it as authentic messages and effective risk management. A pattern also highlighted by Ellen et al. (2006), who demonstrated that consumer responses are more favorable when actions align with relevant issues.

Further consideration should be given to the governance campaigns' poor results. Customers might consider these to be managerial problems unrelated to the quality of the product or its social impact. When businesses advertise governance enhancements, such as board diversity or ethical leadership, audiences might take this as a self-congratulation for fulfilling requirements rather than making an impact. This is also shown by Yoon et. al (2006), who found that CSR perceived as self-serving can harm trust and brand evaluations. Social messaging addresses issues that society cares about, such as labor practices or inclusion and diversity campaigns, but they can create mixed feelings. Messages that are not clear, or they are politicized, can create multiple reactions or are frequently viewed as promotional rather than authentic, especially when they touch controversial topics.

This pattern implies that when themes are combined, the negative social and governance effects weaken the neutral environmental effects, producing a minor total penalty. This research contradicts traditional ESG frameworks, which view the Environmental, Social, and Governance pillars as having equal stakeholder value. The findings are in line with previous studies which showed that stakeholders receive differently ESG dimensions and do not react the same across topics, (Friede et al., 2015; Berg et al., 2022).

Additionally, the theme model shows that industries with the financial services and IT sectors experience sentiment penalties and purchase intent drops. The patterns in the binary model are almost the same. One reason is that these industries have experienced significant scandals, such as labor disputes, data privacy violations, and financial crises, that have severely damaged their credibility and face public doubt when promoting ESG. Especially if it is also related to the governance theme.

Furthermore, audiences respond defensively to ESG claims because these issues often directly hurt consumers such as violations. A lot of people think that these profit-driven industries are not a good fit for actual responsibility, and they see their ESG initiatives as a way to repair their reputation rather than true dedication. This evidence is consistent with prior evidence on consumer skepticism and greenwashing (Delmas & Burbano, 2011). The neutral positions from the Automobile sector may come from the fact that it may reflect environmental actions that are easy to be proven and executed, as consumer skepticism decreases when ESG are incorporated naturally into operations and products.

Popularity has inconsistent effects, with very popular campaigns, to be associated with marginally worse sentiment in the theme model. This is probably because a larger audience always consists of more critics. Viral ESG campaigns may cause backlash due to increased scrutiny, as exposure encourages more people to search about company records or post ESG fail events.

Both regression models reveal that past ESG controversies create credibility deficits. The ESG risk score coefficient is marginally significant and negative in both the theme model and binary model. This provides partial support for H1a. Companies with poor ESG track records face consumer skepticism when launching ESG campaigns, leading to negative reactions from people who believe the company does not fulfill its responsibilities or uses social causes for promotional purposes.

This pattern aligns with previous research demonstrating that when stakeholders believe that a company's ESG communications are misleading or hypocritical with weak performance, they will punish the company (Delmas & Burbano, 2011;Nyilasy et al., 2014). Such responses in this sample showed up as angry comments, negative media coverage, and rejection of the campaign's messages, which are all connected to diminished trust.

Overall, RQ1's results indicate that ESG communications has two sides. It can build trust when they receive authentically on areas that consumers care about, but they can also backfire if people see it as opportunistic or irrelevant.

6.2 Summary of Findings for RQ2

RQ2: *What effect do ESG-focused communication initiatives have on a company's financial performance?*

The empirical evidence demonstrates that ESG advertising campaigns produce minimal and insignificant effects on stock market returns. These results validate H2a, which expected investors to not respond immediately when businesses publicize their ESG initiatives.

The findings support previous research which demonstrates that positive ESG news generates minimal market reaction in the short term, as investors see them as unconnected to financial performance, unless they have clear financial implications (Krüger, 2015; Capelle-Blancard & Petit, 2019). Furthermore, even when ESG advertising were separated down by theme, there was no evidence that any of them performed better or worse in terms of stock performance. This pattern contradicts stakeholder theory's prediction that satisfying non-financial stakeholders creates shareholder value (Freeman, 1984). Positive or negative social media discussion for ESG campaigns is ignored by investors who may perceive it as a meaningless positioning rather than a strategic commitment.

Industry patterns provide some small details. Consumer-facing industries show slightly better immediate reactions, likely because ESG matches more naturally with their business models and customer expectations. However, even these advantages are tiny, making the general lack of interest in the market even stronger. During the five-day period, very high popularity campaigns demonstrated significantly negative effects, while medium popularity campaigns showed marginally negative effects. This implies that viral ESG campaigns might create skepticism that develops over a few days and not positive attention. Increased visibility draws easier investors' attention, and this can lead them to take action.

The greenwashing analysis reveals something more concerning. The potential greenwashing campaigns showed negative returns compared to both clean ESG campaigns and regular campaigns. Notably, the differences didn't reach statistical significance ($p = 0.248$), likely because only eight such cases were identified. However, the pattern remains. Markets may penalize companies whose ESG claims lack credibility (Delmas & Burbano, 2011; Krüger, 2015). Poorly executed ESG campaigns that consumers reject might face both reputational damage and negative market reactions, even if the current sample cannot prove this significantly.

Examining the reasons why ESG ads failed to produce immediate stock gains is also useful. One possible reason is that, in market view, investors are primarily interested in information that impacts risk or cash flows. This is in line with findings from marketing-finance studies that indicate communication campaigns only have an impact on firm value when they are considered financially significant (Edeling & Fischer, 2016). Most ESG ad campaigns do not provide information about earnings, costs, or risk, they are often viewed as public image moves.

In fact, data demonstrated that stock movement around campaign dates was mainly driven by pre-existing market trends (volatility and momentum), not the campaign's content. In other words, ESG communication was maybe too weak relative to normal market fluctuations, especially since no major news was conveyed, as classic event studies show, only significant events produce observable abnormal returns, while weak signals are frequently overshadowed by market noise (Brown & Warner, 1985; MacKinlay, 1997).

Furthermore, a single campaign may not provide new information or make a difference in total because the market has already valued a company's overall ESG commitment through ratings, previous actions and disclosures. Plus, investors already assume that companies promote their ESG efforts, so a new ESG campaign is not a surprise for them.

In conclusion, the overall results of RQ2 present that ESG communications failed to generate any significant market reaction short term. ESG-themed campaigns were neither rewarded nor punished by investors, with the exception of situations in which the campaigns generated anger. This result highlights a potentially concerning point. From a market perspective, companies should not rely on stock price increases through ESG advertising because such announcements do not generate market value. The image of a brand with social, environmental or governance responsibility generates financial benefits through long-term brand equity, risk reduction and customer loyalty rather than immediate stock price increases. However, companies must be cautious, as a poorly received ESG campaign can result in reputational costs that stakeholders do account for, as shown by the negative sentiment and greenwashing events.

6.3 Managerial Implications

The research findings present vital information for managers and companies who want to use ESG communication strategies. First and foremost, ESG communication by itself is not a guaranteed way to improve reputation, its effectiveness depends heavily on execution and authenticity and align with their actual practices and values. Stakeholders prefer to see genuine assessments of company achievements. Managers need to verify that their ESG advertising matches their actual business actions and value.

For these reasons, they need to provide facts, reports about progress, specific data, or openly discuss past mistakes in the campaign's content. Since trust is hard to regain once it is lost, businesses can be careful on how to design the ESG campaign and how they deliver it. Any sign of fake marketing and greenwashing practices can damage credibility and annoy customers, as noted by Delmas and Burbano (2011). A key take away is to treat ESG communications as a chance for open storytelling about genuine projects rather than as spin.

Another important implication is that not all ESG topics are equally effective at increasing consumer trust. According to research findings, the public showed neutral reception in environmental programs than they did in governance-based initiatives. In contrast, social and especially governance campaigns actively harm consumer sentiment.

To communicate a governance improvement (such as a new ethics policy or board diversity milestone), it could prove more efficient to use investor relations channels or reports instead of mass consumer advertisements. For social initiatives, it is required for managers to understand their audience because topics generate strong political disagreements among people. In any case, it's critical that the brand's main activities and the ESG issue are compatible (as also advised by Becker-Olsen et al., 2006).

Moreover, the industry's place in the market needs to be considered. For example, if a financial or tech company has low public trust and has faced multiple ESG controversies in the past, the initial reception of ESG messages may be negative. As mentioned, the organization needs to prove its credibility. It could also mean changing expectations. Businesses in those sectors might need to present their messaging in a more humble and simple tone, like showing they are working to improve. Companies in sectors that are more naturally aligned with ESG, like consumer staples, have advantages, but they also need to avoid disclaims.

In compliance with this, it would be useful for companies to have a backlash plan in any case. The management team needs to be aware of social media activity and have quick responses prepared. Companies must handle social media criticism about their ESG advertisements through open communication which involves responding to public concerns and showing their actions regarding the matter while also fixing any incorrect information that spreads. The strategy may also involve reconsidering the message and removing the advertising, if feedback is negative.

Results show that viral campaigns with negative reactions harm both firms' reputation and market value. The absence of any response during social media periods leads people to believe the company is uninterested or responsible for the issue. The company can reduce trust harm by actively engaging with critics and supporters through communication methods and show that they want to listen.

Lastly, managers need to set and communicate reasonable goals for ESG advertising. It is probably unrealistic to expect an ESG campaign to result in a short-term increase in sales or stock price (and this study confirms this). The announcement of upcoming sustainability campaigns should never promise immediate financial benefits to shareholders. The main value of ESG communication emerges from its ability to construct long-term brand value and trust relationships with stakeholders.

Managers should inform investors that ESG marketing is a way of their strategy to build reputation, maintain stakeholder loyalty and reduce business risks. Instead of using sales to assess the success of an ESG campaign, managers may use metrics such as changes in brand trust scores, the growth of social media followers or earned media coverage sentiment.

All things considered, the takeaway for managers is that ESG communication is a significant project. If it is done correctly, it can increase consumer loyalty, but performing it poorly can cause controversy and even some financial consequences. Therefore, before launching the campaign, careful planning is crucial.

6.4 Academic Implications

The research provides three academic contributions which unite marketing with Social Environmental and Governance responsibility and financial aspects.

First, the research provides assumptions about how ESG communication is effective. While prior research suggested ESG messaging builds consumer trust (Du et al., 2010), this study proves that ESG marketing by itself does not create trust benefits compared to non ESG advertising. This extends skepticism theory by showing that ESG messaging faces credibility issues, especially for specific topics and industries. The finding that environmental, social, and governance themes produce different consumer reactions is not aligned with traditional ESG frameworks which treat all three themes equally.

Second, the study reveals a disconnection between consumer sentiment and instant investor behavior. Despite the different reactions to ESG campaigns, positive or negative, markets remain unaffected, as consumer sentiment did not show any relationship with stock returns in a short-term window. In contrast with stakeholder theory, this indicates shareholder and stakeholder interests do not perfectly match, at least immediately. The evidence better aligns with shareholder primacy, markets focus on fundamental financial indicators (volatility, momentum) rather than stakeholder sentiment. This implies that various stakeholder groups assess ESG communications using completely different criteria. Investors evaluate financial worth, while consumers evaluate authenticity and relevance.

Finally, the research provides methodological innovation by combining sentiment analysis of social media data with event study methodology to measure both consumer and market reactions at the same time. This approach reveals patterns invisible to single-stakeholder studies. Future research should explore whether ESG's consumer-level effects translate into long-term financial outcomes through mechanisms like customer loyalty or reputation that event studies cannot capture.

In conclusion, the study strengthens academic knowledge by validating or denying previous theories on the effectiveness of ESG communication, by combining consumer sentiment data with financial market analysis, and by identifying the circumstances (authenticity, theme type, stakeholder feedback) that lead to the success or failure of ESG communications, creating an environment for future advancement of theories in marketing strategy and business communication.

6.5 Limitation & Future Research

While this study provides meaningful insights into ESG communication, it is not without limitations. The first limitation includes the sample of campaigns. The research analyzed 90 marketing campaigns making it a small sample for generalization. The campaigns also were not randomly selected. There was a bias toward larger and famous companies, since those have more social media and stock market data provided. Similarly, the small number of non-ESG campaigns (25) in the sample were relatively few compared to ESG campaigns and reduces the power of analysis between these two groups. The time period from 2010 to 2024 presents another challenge because public understanding of ESG issues and social media usage patterns have transformed significantly.

Future research should increase the number of analyzed campaigns potentially by studying different company types, like mid-sized businesses and non-Western organizations, and by adding more non-ESG advertisements for better comparison. A bigger sample size would help researchers to perform detailed investigations about which ESG campaign components, such as tone, messaging style or influencer involvement. In addition, future research should analyze ESG campaign responses through time by studying how audience perceptions have changed between the years as sustainability gained more public attention.

Additionally, research faces challenges because it depends on social media data to measure consumer trust and sentiment. The feelings of all consumers might not be accurately represented by those social media platforms. The commenters who participate in online discussions represent a biased group because they choose to participate, and their opinions tend to fall into extreme positive or negative categories while ignoring the unexpressed views of others.

Future studies could address this by examining brand reputation indicators over time or by combining alternative measures of consumer engagement and trust, like surveys or interviews that directly measure consumer trust levels. Another good approach would be to analyze public opinion by studying sentiment across multiple platforms which include Facebook, Instagram or TikTok. Young people tend to be more active on those platforms and also, they provide more passive engagement, such as likes and reposts. It can also provide the actual reach of each campaign, since the same campaign can have more reactions in a platform compared to another one.

Another limitation exists in the measurement of financial performance and the emphasis on short-term effects. Event study methodology can be helpful in capturing investors' immediate reactions to new information, but it might not be able to capture the long-term financial effects of increased brand trust. ESG initiatives may increase a company's value in deeper ways, such as by attracting loyal customers, strengthening brand identity, or preventing future ESG-related scandals, so none of these effects would necessarily be immediately apparent in a rise in stock price. In addition to this, stock prices are a basic measurement tool which gets affected by numerous outside market elements and economic announcements at the time of the campaign launch.

Future studies should consider long-term and alternative financial metrics, evaluate sales number, revenue growth, or new customers after an ESG campaign to evaluate financial performance metrics. Additionally, investor sentiment must be examined through experiments or investor surveys. These methods would help us better understand the longer-term effects of ESG-focused communications on financial stakeholders rather than just the short-term market response.

It is also worth mentioning that this study reports relationships rather than proving cause-and-effect. Unmeasured factors, like ad quality, media spend, firm size, or launch under public pressure, may still exist even though the models account for industry and pre-event trends. Furthermore, sentiment scores capture the general tone but not the reasons behind people's reactions. Combining comments hides specific praise or criticism, but maybe because of general complaints and not for the ESG topic.

Therefore, rather than being absolute claims, results should be interpreted as conditional relationships. Future research should use field experiments where it is possible and integrate qualitative and quantitative analysis to determine the reasons behind the success or failure of campaigns.

Despite these limitations, the study's design, which combines several data sources, with social media and financial analysis, offers an appropriate exploratory analysis.

Conclusions

This study examined how ESG communication strategies affect consumer trust levels and financial performance. Overall, the findings show that ESG-themed campaigns have the potential to build stakeholder trust and create long-term value, but their effects depend on the situation. On the consumer side, ESG campaigns performed like non-ESG campaigns on average, but with differences across topics and contexts. Content that involves environmental messages tend to be neutral or lightly positive, while social and governance messages can backfire and reduce trust. The findings highlight the need for businesses to align their ESG messaging with real performance and transparency to build trust and prevent skepticism.

The financial performance analysis did not discover any immediate market benefits from ESG communication programs. Stock returns were indifferent to ESG messaging or sentiment, validating the idea that only ESG news with clear financial implications moves markets. ESG communications may generate financial benefits through long-term effects which stem from improved brand reputation, risk management and stakeholder commitment instead of immediate market responses.

The research findings create significant business implications. Managers need to understand that ESG advertising does not automatically lead to better reputation or stock market performance. The implementation of ESG messages requires organizations to match their statements with actual accomplishments while selecting suitable communication channels. For example, the communication of governance improvements should occur through investor reports instead of mass advertising while environmental initiatives need transparent disclosure. Companies operating in industries with minimal trust levels (finance and technology) need to be cautious about their messaging to prevent perceptions of opportunism.

In conclusion, the implementation of ESG messages that appear insincere or mismatched with actual company actions will likely produce negative results through stakeholder doubt, trust deterioration and temporary financial losses. These discoveries emphasize a fundamental lesson. ESG communication works best when it is a long-term approach based on actual performance and open communication. Businesses must approach ESG-focused campaigns as a continuous commitment to ethical behavior and stakeholder engagement rather than as a short-term marketing tool. By doing this, firms can create the credibility which is required to make their ESG communications impactful.

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Appendix Tables

1. ESG vs Non-ESG Comparisons

Table A1 presents independent-samples t-tests comparing ESG and non-ESG campaigns across sentiment, purchase intent, and short-term financial variables (CAR and BHAR5). ESG campaigns performed roughly the same as regular advertising across all metrics. Non-ESG ads averaged slightly higher sentiment (0.013 vs -0.01) and purchase intent (59.8% vs 57%), but these differences are too small to be meaningful statistically.

The same pattern holds for stock returns: ESG campaigns showed 0.8% abnormal returns versus 0.4% for non-ESG, but with a p-value of 0.52, this could easily be noise. The effect sizes (Hedges' g around 0.06-0.16) confirm these are trivial differences. In practical terms, simply labeling a campaign as "ESG" doesn't give you an advantage over traditional advertising.

Table A1 ESG vs Non-ESG Comparisons (t-tests)

Variable	Non-ESG	ESG	Difference	t	p-value	Hedges' g
Net Sentiment	0.0130	-0.01	-0.023	0.263	0.793	0.059
Purchase Intent (%)	59.830	56.97	-2.860	0.760	0.450	0.163
CAR	0.004	0.008	0.004	-0.644	0.522	-0.135
BHAR5	0.005	0.007	0.001	-0.159	0.874	-0.035

Moreover, Table A2 below shows the regression results for consumer trust outcomes (Net Sentiment and Purchase Intent). ESG by itself do not make a difference ($\beta = -0.102$, $p = 0.244$). Companies with worse ESG score tend to face more skepticism ($\beta = -0.015$, $p < 0.10$). Industry sector is imporntat since finance and tech drop sentiment by 0.47 points and purchase intent by 24 percentage points versus automotive. Platform and popularity have minimal effects.

Table A2 Consumer Trust Regression - Binary ESG

	Net Sentiment		Purchase Intent (%)	
Variable	**Coef.**	**SE**	**Coef.**	**SE**
(Intercept)	0.763**	(0.285)	88.450***	(13.250)
is_esg	-0.102	(0.087)	-7.205†	(3.902)
esg_risk_score	-0.015†	(0.008)	-0.409	(0.385)
factor(popularity)Low	0.038	(0.124)	3.686	(4.936)
factor(popularity)Medium	-0.084	(0.120)	-4.162	(5.090)
factor(popularity)Very High	-0.255†	(0.146)	-9.117	(5.958)
factor(industry)Consumer Discretionary	-0.191†	(0.110)	-6.314	(5.065)
factor(industry)Consumer Staples	-0.077	(0.123)	-5.693	(5.527)
factor(industry)Financial & Other Services	-0.469**	(0.168)	-24.081**	(7.170)
factor(industry)Information Technology	-0.468**	(0.151)	-23.877**	(6.996)
platformYoutube	-0.091	(0.120)	-6.913	(5.658)
platformBoth	-0.222†	(0.129)	-6.515	(6.333)
Observations	90		90	
R^2	0.216		0.224	

***p<0.001, **p<0.01, *p<0.05, †p<0.1. Robust HC1 SE. Ref: Twitter

For financial model, results are presented in Table A3 which reports the regression models for cumulative abnormal returns (CAR) and buy-and-hold abnormal returns (BHAR). ESG campaigns show a slight positive effect on immediate returns ($\beta = 0.013$, $p = 0.076$) but this disappears by day 5 ($\beta = 0.010$, $p = 0.219$). Consumer sentiment have no influence as the coefficient is negative and insignificant for both windows. Market values, such as pre-event momentum ($\beta = 0.11$-0.12, $p < 0.05$) and volatility ($\beta = 1.13$-1.36, $p < 0.001$) appear the most important. Very popular campaigns harm returns by day 5 ($\beta = -0.029$, $p < 0.05$), suggesting viral attention can also backfire. Consumer staples get a small bump ($\beta = 0.025$, $p < 0.05$) but this also fades fast.

Table A3. Financial Performance - Binary ESG

	CAR (Winsorized)		BHAR5 (Winsorized)	
Variable	**Coef.**	**SE**	**Coef.**	**SE**
(Intercept)	-0.03889	(0.02915)	-0.01155	(0.03679)
is_esg	0.01294†	(0.00720)	0.01036	(0.00836)
z_netsentiment	-0.00407	(0.00278)	-0.00283	(0.00383)
esg_risk_score	0.00008	(0.00089)	0.00014	(0.00102)
factor(popularity)Low	0.00058	(0.01085)	-0.01491	(0.01273)
factor(popularity)Medium	-0.01492	(0.01164)	-0.02474†	(0.01271)
factor(popularity)Very High	-0.01979†	(0.01155)	-0.02865*	(0.01396)
platformYoutube	0.01158	(0.00898)	0.01208	(0.01110)
platformBoth	-0.00706	(0.00977)	-0.00992	(0.01159)
PreRet20	0.11472***	(0.03226)	0.12209*	(0.05345)
PreVol20	1.36274***	(0.29514)	1.12892**	(0.36503)
factor(industry)Consumer Discretionary	0.02141†	(0.01143)	0.00805	(0.01282)
factor(industry)Consumer Staples	0.02476*	(0.01014)	0.00421	(0.01213)
factor(industry)Financial & Other Services	0.01409	(0.01795)	0.00151	(0.02005)
factor(industry)Information Technology	-0.00274	(0.01493)	-0.01718	(0.01780)
Observations	90		90	
R^2	0.347		0.284	

***p<0.001, **p<0.01, *p<0.05, †p<0.1. Robust HC1 SE. Ref: Twitte

2. 2. Additional Results

Table A4 present Post Tukey Results. It reveals that governance campaigns performe significantly worse than environmental campaigns (p = 0.013), with a difference of 0.37 standard deviations. Social campaigns fell between these extremes but did not differ significantly from either group, meaning governance topics can encounter credibility challenges.

Table A4 Post-hoc Tukey HSD

Comparison	Difference	p.value
Governance - Environmental	-0.369	0.013*
Social - Environmental	-0.231	0.101
Governance - Social	-0.138	0.464

Table A5 shows that industries have differences in how consumers received ESG messaging. Financial services and information technology sectors have the most negative sentiment (−0.199 and −0.129 respectively). Consumer-facing sectors have neutral to positive reception, meaning that authenticity perceptions depend heavily on industry context. Financial services also show the highest concentration of greenwashing risk consistent with public skepticism about profit-driven industries adopting social responsibility messaging.

Table A5 Industry-Specific ESG Performance

Industry	n	ESG Campaigns	Mean Sentiment	Greenwashing Cases
Consumer Discretionary	30	22	-0.002	3
Consumer Staples	24	18	0.064	1
Automotive	14	11	0.123	1
Information Technology	12	7	-0.129	1
Financial & Other Services	10	7	-0.199	2