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GREEN MARKETING AND CONSUMER PERCEPTIONS

Supervisor:

Fiammetta Corradi

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Levent Emir Ozder

Student. n. 549795

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Abstract

Il crescente utilizzo della comunicazione della sostenibilità nel marketing ha aumentato l'interesse dei consumatori verso prodotti responsabili in senso ambientale, incrementando allo stesso tempo lo scetticismo nei confronti delle dichiarazioni delle imprese sui rispettivi impatti ambientali. Questo studio analizza come il framing dei benefici e la specificità delle affermazioni influenzino le risposte dei consumatori alla comunicazione della sostenibilità nel contesto del green marketing.

Lo studio adotta un disegno sperimentale within-subjects 2×2 , nel quale i partecipanti hanno valutato messaggi di sostenibilità relativi a un marchio fittizio di elettronica di consumo. Lo studio ha misurato l'intenzione di acquisto, la credibilità del marchio, l'atteggiamento verso il marchio e la percezione di greenwashing.

I risultati hanno evidenziato che la specificità delle affermazioni ha influenzato significativamente tutte le principali variabili dipendenti. Le dichiarazioni di sostenibilità specifiche hanno aumentato l'intenzione di acquisto, migliorato la credibilità del marchio e ridotto le percezioni di greenwashing. Al contrario, il framing dei benefici ha prodotto effetti deboli e statisticamente non significativi.

I risultati suggeriscono che i consumatori attribuiscono maggiore importanza alla credibilità, alla trasparenza e a una comunicazione della sostenibilità supportata da elementi concreti rispetto all'orientamento persuasivo del framing. Lo studio contribuisce alla letteratura sul green marketing evidenziando l'importanza di dichiarazioni ambientali specifiche e basate su evidenze nel ridurre lo scetticismo dei consumatori e rafforzare la fiducia nel marchio.

Parole chiave: green marketing, comunicazione della sostenibilità, greenwashing, credibilità del marchio, intenzione di acquisto, specificità delle affermazioni, scetticismo del consumatore

Abstract

The increasing use of sustainability communication in marketing has intensified consumer interest in environmentally responsible products while also increasing skepticism toward corporate environmental claims. This study examines how benefit framing and claim specificity influence consumer responses to sustainability communication within green marketing.

A 2×2 within-subject experimental design was conducted in which participants evaluated sustainability messages from a fictional consumer electronics brand. This paper measured purchase intention, brand credibility, brand attitude and perceived greenwashing.

The findings revealed that claim specificity significantly influenced all major dependent variables. Specific sustainability claims increased purchase intention, improved brand credibility and brand attitude and reduced perceptions of greenwashing. In contrast, benefit framing produced weak and non-significant effects. Correlation analyses further showed strong positive relationships between credibility, purchase intention and brand attitude, while perceived greenwashing negatively affected positive consumer outcomes.

The findings suggest that consumers prioritize credibility, transparency and substantiated sustainability communication over persuasive framing orientation. The paper contributes to green marketing literature by emphasizing the importance of specific and evidence-based environmental claims in reducing consumer skepticism and strengthening consumer trust.

Keywords: green marketing, sustainability communication, greenwashing, brand credibility, purchase intention, claim specificity, consumer skepticism

CHAPTER 1: INTRODUCTION

1.1 Background and Context

Environmental sustainability has become one of the defining concerns of modern business and consumer culture. Over the last several decades, growing awareness of climate change, pollution, excessive resource consumption, and environmental degradation has transformed the relationship between consumers and corporations. Firms are no longer evaluated solely on product quality or financial performance. Consumers increasingly expect companies to act responsibly and communicate sustainability efforts transparently.

As public concern for environmental issues intensified, companies began integrating sustainability into branding and marketing communication strategies. Green marketing gradually evolved from a niche practice associated with environmentally conscious consumers into a mainstream strategic tool used across industries. Early environmental advertising often focused on recyclable packaging, reduced waste, or energy efficiency. Over time, however, sustainability communication expanded beyond individual product attributes and became closely connected to corporate image, reputation management, and long-term brand positioning.

Leonidou et al. (2011) argue that environmental advertising developed into a strategic mechanism through which firms attempt to establish legitimacy and differentiate themselves within increasingly competitive markets. Sustainability communication is now visible across advertising campaigns, product packaging, corporate reports, websites, and social media platforms. Companies frequently highlight carbon reduction initiatives, renewable energy usage, sustainable sourcing

practices, and broader environmental commitments in an attempt to appeal to environmentally conscious consumers.

At the same time, sustainability communication has become more commercially valuable. Consumers often associate environmental responsibility with ethical behavior, innovation, product quality, and long-term reliability. As a result, sustainability messaging is no longer limited to traditionally ecological brands. Firms operating in sectors such as technology, fashion, cosmetics, transportation, and consumer electronics increasingly incorporate environmental claims into their marketing communication.

Despite this expansion, the effectiveness of green marketing remains uncertain. Although consumers consistently express concern for environmental issues, this concern does not always translate into purchasing behavior. Previous research suggests that skepticism toward environmental advertising may partially explain this inconsistency. Mohr, Eroğlu, and Ellen (1998) note that consumers often question the truthfulness and motives underlying environmental claims, particularly when such claims are difficult to verify independently. Their work demonstrates that skepticism toward environmental communication functions as a context-specific cognitive response shaped by prior experiences with advertising credibility and perceived corporate trustworthiness.

Concerns about misleading environmental communication have become more prominent in both academic literature and public discussion. The growing prevalence of greenwashing reflects a broader tension between persuasive sustainability communication and perceived authenticity. Lyon and Montgomery (2015) define greenwashing as communication that misleads consumers into forming overly positive beliefs regarding a company's environmental performance, products, or practices. Their analysis demonstrates that greenwashing can take multiple forms including vague

claims, symbolic environmentalism, selective disclosure, misleading imagery, and exaggerated environmental messaging.

The commercialization of sustainability has created a paradox in modern marketing. On one hand, firms are expected to communicate environmental responsibility because sustainability increasingly influences consumer expectations and corporate legitimacy. On the other hand, excessive promotional emphasis or insufficiently substantiated environmental claims may trigger skepticism and perceptions of manipulation.

This becomes especially relevant when examining how sustainability messages are framed and how much supporting detail they contain. Existing literature suggests that the effectiveness of environmental messaging depends not only on the sustainability claim itself but also on how the message is presented. Some studies indicate that consumers respond more positively to self-benefit or consumer-benefit appeals because these appeals increase personal relevance and highlight direct individual advantages such as cost savings, product performance, or health benefits. Other studies emphasize the importance of altruistic or environmental-benefit appeals because consumers may value ethical responsibility and collective environmental outcomes.

Another key factor within green advertising research is the level of claim specificity used in environmental communication. Consumers generally perceive specific sustainability claims with measurable evidence as more credible than vague environmental claims. Ganz and Grimes (2018) demonstrate that claim specificity enhances green advertising credibility across product categories. Similarly, Atkinson and Rosenthal (2014) show that argument specificity positively influences consumer trust toward eco-labels and environmental communication.

In contrast, vague environmental claims are frequently associated with increased skepticism and perceived greenwashing. Lyon and Montgomery (2015) argue that ambiguity enables firms to create environmentally responsible impressions without providing sufficient evidence to support those claims. As consumers become increasingly aware of greenwashing practices, vague sustainability communication may undermine trust and negatively affect consumer evaluations.

This thesis builds on these theoretical and practical developments in green marketing research. More specifically, this study examines how consumers respond to sustainability communication strategies by investigating the combined effects of benefit framing and claim specificity.

It employs a 2×2 within-subject experimental design that manipulates:

1. Benefit framing:
 - Consumer-benefit framing
 - Environmental-benefit framing
2. Claim specificity:
 - Specific sustainability claims
 - Vague sustainability claims

The dependent variables examined include purchase intention, brand credibility, brand attitude, and perceived greenwashing. In addition, environmental concern and sustainability familiarity are included as control variables because previous literature suggests that these factors influence consumer interpretation of environmental communication.

By combining framing theory, greenwashing research, and advertising credibility literature within one experimental framework, this study aims to provide a broader understanding of how consumers respond to green marketing communication.

1.2 Research Problem

Despite the increasing prevalence of sustainability communication within modern marketing practice, firms continue to face significant challenges regarding the credibility and effectiveness of environmental claims. One of the primary issues identified within green marketing literature concerns the growing gap between corporate sustainability communication and consumer trust.

As sustainability became commercially valuable, environmental messaging increasingly shifted from informational communication toward persuasive brand positioning. As a result, consumers now encounter environmental claims on packaging, advertisements, corporate reports, and social media. However, this increased exposure has simultaneously contributed to rising skepticism toward green advertising.

Mohr et al. (1998) emphasize that skepticism toward environmental claims emerges because consumers increasingly doubt the truthfulness and motives underlying sustainability communication. Similarly, Obermiller, Spangenberg, and MacLachlan (2005) demonstrate that advertising skepticism negatively affects consumer trust and advertising effectiveness more broadly. The problem becomes particularly relevant when sustainability claims are vague, generalized, or insufficiently substantiated. Prior studies suggest that vague environmental claims may create ambiguity, uncertainty, and perceptions of manipulation. Consumers often struggle to evaluate whether sustainability claims reflect genuine environmental commitment or merely symbolic communication designed to improve corporate image.

This issue has become more important due to the rise of greenwashing. Greenwashing not only damages the credibility of individual firms but may also undermine consumer trust toward sustainability communication more generally. Lyon and Montgomery (2015) argue that misleading environmental communication contributes to broader distrust within the marketplace, thereby reducing the effectiveness of legitimate sustainability initiatives.

Another important issue concerns the strategic framing of sustainability communication. Firms must decide whether environmental messaging should emphasize direct consumer benefits or broader environmental benefits. While consumer-benefit framing may increase personal relevance and immediate persuasive effectiveness, environmental-benefit framing may enhance perceptions of ethical commitment and corporate responsibility. Existing findings remain inconsistent regarding which framing strategy generates more favorable consumer responses.

Similarly, although claim specificity has been associated with increased credibility, there is limited understanding regarding how specificity interacts with different framing strategies. Specific claims may increase trust when environmental benefits are emphasized, yet overly detailed communication may also increase consumer scrutiny and skepticism under certain conditions.

Consequently, firms face a complex communication dilemma:

- persuasive sustainability communication may increase brand attractiveness and purchase intention;
- however, excessive persuasion, vague claims, or insufficient substantiation may activate skepticism and perceived greenwashing.

This tension between persuasion and authenticity constitutes a central problem within contemporary sustainability communication.

1.3 Research Gap

Although green marketing and sustainability communication have been widely studied, several conceptual and methodological gaps remain within the literature. First, much of the existing literature investigates environmental communication variables in isolation. Numerous studies examine greenwashing independently from advertising framing, while other studies focus on credibility or eco-label effectiveness without integrating perceived greenwashing into the analysis. Second, research on sustainability framing has generated inconsistent findings regarding the relative effectiveness of consumer-benefit versus environmental-benefit appeals. Kareklas, Carlson, and Muehling (2014) suggest that self-benefit framing may enhance persuasion because consumers prioritize personal outcomes. However, other studies indicate that altruistic or environmental appeals may positively influence consumers with stronger environmental values. Third, although claim specificity has received increasing scholarly attention, relatively few studies examine how specificity interacts with message framing. Existing studies primarily investigate specificity as an isolated predictor of credibility rather than as a moderating communication characteristic.

Fourth, current literature remains fragmented regarding the relationships among:

- benefit framing,
- claim specificity,
- perceived greenwashing,
- brand credibility,
- brand attitude,

- and purchase intention.

Only limited research has examined these variables together within one integrated framework.

Additionally, methodological limitations remain evident within existing research. Many prior studies rely on between-subject experimental designs, cross-sectional surveys, or conceptual discussions. Comparatively limited research employs within-subject experimental designs capable of directly comparing consumer responses across multiple sustainability communication conditions.

To address these limitations, the current study combines framing theory, greenwashing research, and advertising credibility within a 2×2 within-subject experimental design. Specifically, this thesis contributes to the literature by simultaneously examining:

- the effects of benefit framing,
- the effects of claim specificity,
- their interaction effects,
- and their influence on consumer perceptions of credibility, greenwashing, brand attitude, and purchase intention.

By doing so, this research seeks to provide a more comprehensive understanding of how sustainability communication strategies shape consumer responses within contemporary green marketing contexts.

1.4 Research Aim

The primary aim is to investigate how sustainability communication strategies influence consumer perceptions and behavioral intentions.

More specifically, the study examines how benefit framing and claim specificity affect:

- purchase intention,
- brand credibility,
- brand attitude,
- and perceived greenwashing.

The study further seeks to understand whether specific sustainability claims can enhance credibility and reduce skepticism, particularly when combined with different communication framing strategies.

1.5 Research Objectives

The objectives of this research are:

1. To examine the effects of consumer-benefit versus environmental-benefit framing on consumer evaluations.
2. To analyze the effects of claim specificity on credibility and perceived greenwashing.
3. To investigate how vague sustainability claims influence skepticism and perceptions of deception.
4. To examine the interaction between framing and specificity within sustainability communication.
5. To contribute to green marketing literature by integrating framing, specificity, and greenwashing research within a unified experimental model.

1.6 Research Questions

This thesis addresses the following research questions:

1. How does benefit framing influence consumer responses to sustainability communication?
2. Do specific sustainability claims increase perceived credibility compared to vague claims?
3. How do vague sustainability claims affect perceived greenwashing?
4. Does claim specificity moderate the effectiveness of sustainability framing?
5. How do sustainability communication strategies influence purchase intention and brand attitude?

1.7 Hypothesis Overview

The present study tests four hypotheses derived from existing literature on sustainability communication, advertising credibility, and greenwashing.

H1 proposes that consumer-benefit framing leads to higher purchase intention and more positive brand attitudes than environmental-benefit framing. This expectation is grounded in literature suggesting that self-benefit appeals may increase personal relevance and persuasive effectiveness.

H2 proposes that specific sustainability claims increase brand credibility and reduce perceived greenwashing compared to vague claims. Prior research indicates that concrete and substantiated environmental claims are generally perceived as more trustworthy. H3 proposes that vague sustainability claims increase perceived greenwashing. Existing literature consistently associates ambiguous environmental communication with skepticism and perceptions of deception. H4 proposes that specific environmental claims are evaluated more positively than vague

environmental claims. This hypothesis reflects the expectation that environmental appeals may require stronger informational substantiation to overcome consumer skepticism.

1.8 Thesis Structure Overview

This thesis is structured into six chapters.

Chapter 1 introduces the research context, research problem, research objectives, and methodological overview. Chapter 2 presents a comprehensive literature review addressing green marketing, sustainability communication, greenwashing, framing theory, claim specificity, and consumer trust. Chapter 3 develops the study hypotheses through theoretical integration and critical discussion of prior literature. Chapter 4 presents the research methodology, including experimental design, measurement instruments, sampling procedures, and analytical approach. Chapter 5-6 presents the empirical findings, discussion, theoretical implications, managerial implications, limitations, and directions for future research.

CHAPTER 2: LITERATURE REVIEW

2.1 Green Marketing and Sustainability Communication

Green marketing developed as a response to rising environmental awareness and growing public concern regarding ecological degradation. During the late twentieth century, environmental issues increasingly entered mainstream political, economic, and social discussions. Consumers became more attentive to pollution, waste generation, climate change, and unsustainable industrial activity. Consequently, businesses began incorporating environmental considerations into product development, branding, and communication strategies.

Early forms of green marketing were primarily product-oriented. Companies focused on recyclable packaging, reduced material usage, energy efficiency, or biodegradable components.

Environmental communication during this period often emphasized isolated ecological product attributes rather than broader corporate sustainability commitments. However, as sustainability became commercially valuable, green marketing evolved into a much broader strategic communication practice.

Kangun, Carlson, and Grove (1991) observed that environmental advertising expanded rapidly during the early stages of green marketing development. Their research suggested that many environmental claims lacked sufficient precision and often relied on broad or ambiguous environmental terminology. This finding was later reinforced by Carlson, Grove, and Kangun (1993), who identified multiple forms of misleading environmental advertising claims. Their work remains important because it demonstrated that vagueness and ambiguity were deeply embedded within early green advertising practices. Over time, sustainability communication became increasingly integrated into corporate identity and reputation management. Leonidou et al. (2011) argue that environmental advertising evolved beyond simple ecological product promotion and became closely connected to strategic positioning and legitimacy construction. Sustainability messaging is now used not only to promote products but also to shape broader perceptions of corporate responsibility and ethical conduct.

This transformation reflects wider changes in consumer expectations. Modern consumers increasingly evaluate firms according to environmental and social criteria alongside traditional economic considerations. Sustainability therefore functions not merely as a moral issue but also as a strategic market asset capable of influencing brand differentiation and consumer loyalty. The growth of corporate social responsibility communication further accelerated this trend. Du, Bhattacharya, and Sen (2010) emphasize that CSR communication can strengthen consumer-company relationships when sustainability initiatives are perceived as authentic and credible.

However, they also note that ineffective communication strategies may generate skepticism if consumers perceive environmental messaging as exaggerated or insincere.

The strategic value associated with sustainability communication has simultaneously increased incentives for symbolic environmentalism. As environmental responsibility became associated with innovation, ethical conduct, and long-term reliability, firms increasingly recognized that green communication could enhance brand image and corporate legitimacy. Yet this development also intensified concerns regarding the authenticity of sustainability claims. Lyon and Montgomery (2015) describe greenwashing as a broad form of misleading environmental communication that encourages consumers to form overly positive beliefs about a company's environmental performance. Their review highlights that greenwashing can involve selective disclosure, symbolic management, misleading imagery, vague language, and incomplete environmental comparisons.

The rise of greenwashing reflects a central contradiction within sustainability communication. Firms are encouraged to communicate environmental responsibility because sustainability increasingly affects consumer evaluations and competitive positioning. At the same time, aggressive environmental promotion may create skepticism when communication lacks sufficient specificity or evidence. This issue becomes especially relevant because environmental attributes are often difficult for consumers to independently verify. Unlike traditional product attributes such as price or appearance, sustainability claims frequently involve complex production processes, supply chain practices, or technical environmental standards. Consequently, consumers must often rely on corporate communication when evaluating environmental responsibility.

Mohr et al. (1998) argue that skepticism toward environmental claims is particularly important because consumers may perceive environmental advertising as inherently vulnerable to

exaggeration and manipulation. Their research demonstrates that skepticism functions as a cognitive response shaped by perceptions of advertising credibility and corporate trustworthiness.

Previous research indicates that sustainability communication can generate both positive and negative consumer reactions depending on how environmental claims are presented. Effective environmental communication may strengthen brand credibility, improve corporate image, and increase purchase intention. Conversely, vague or poorly substantiated claims may activate skepticism, reduce trust, and generate perceptions of greenwashing.

Another important development within green marketing literature concerns the increasing sophistication of sustainability communication strategies. Contemporary environmental advertising no longer relies exclusively on explicit ecological statements. Firms frequently use emotional imagery, symbolic language, and lifestyle associations to create environmentally responsible brand identities. Hartmann and Apaolaza-Ibáñez (2009) describe how green advertising can create positive emotional responses through symbolic associations with nature and environmental well-being. However, the use of symbolic environmental communication also raises concerns regarding manipulation and authenticity. Parguel, Benoît-Moreau, and Russell (2015) demonstrate that nature-related imagery and symbolic environmental cues may create misleading impressions even in the absence of explicit false claims. Their findings suggest that consumers may infer environmental responsibility from visual and emotional communication elements that provide little concrete information.

The increasing complexity of sustainability communication highlights the importance of examining not only whether environmental claims are present but also how those claims are communicated. In particular, framing and claim specificity appear to play critical roles in determining whether sustainability communication generates trust or skepticism.

The present study contributes to this literature by examining how different sustainability communication strategies influence consumer evaluations. Specifically, the research investigates whether the framing and specificity of environmental claims shape perceptions of credibility, greenwashing, brand attitude, and purchase intention.

2.2 Consumer Responses to Green Advertising

Understanding consumer responses to green advertising has become one of the central concerns within sustainability communication research. Although environmental awareness has increased substantially over the past several decades, consumer reactions toward environmental advertising remain highly complex and often contradictory. Many consumers express strong support for sustainability and environmental responsibility while simultaneously demonstrating skepticism toward corporate environmental claims. One explanation for this contradiction lies in the inherently uncertain nature of environmental communication. Unlike traditional product attributes such as price, appearance, or functionality, sustainability-related claims are frequently difficult for consumers to verify independently. Consumers often lack the technical knowledge required to evaluate environmental production processes, carbon reduction practices, supply chain sustainability, or ecological certifications. As a result, environmental advertising relies heavily on perceived credibility and trust.

Mohr et al. (1998) argue that skepticism toward environmental claims represents a context-specific cognitive response shaped by prior experiences with marketing communication and perceptions of corporate trustworthiness. Their work is particularly important because it distinguishes skepticism from broader cynicism. Whereas cynicism reflects a more stable distrust toward institutions or corporate motives, skepticism functions as a situational response that varies according to the characteristics of the communication itself.

This distinction is important for sustainability communication. If skepticism is context-dependent rather than entirely dispositional, firms may be capable of reducing skepticism through more credible and transparent communication strategies. Consequently, the effectiveness of environmental advertising depends not only on consumer attitudes toward sustainability but also on message structure, informational clarity, and perceived authenticity.

Research consistently demonstrates that consumer trust plays a central role in shaping responses to environmental advertising. Chen and Chang (2013) found that perceived greenwashing negatively influences green trust through increased consumer confusion and perceived risk. Their findings suggest that consumers interpret misleading or exaggerated environmental communication as signals of corporate opportunism rather than genuine sustainability commitment. Similarly, Nyilasy, Gangadharbatla, and Paladino (2014) demonstrate that green advertising may backfire when consumers perceive inconsistency between environmental claims and actual corporate environmental performance. Their study indicates that sustainability communication alone is insufficient to generate positive consumer responses if broader corporate behavior appears inconsistent with environmental messaging.

The role of eco-labels and environmental certifications makes consumer skepticism toward green advertising even more complex. Eco-labels are generally intended to reduce information asymmetry by providing consumers with recognizable indicators of environmental performance. However, previous research suggests that the effectiveness of eco-labels depends heavily on source credibility and message specificity. Atkinson and Rosenthal (2014) demonstrate that argument specificity significantly improves consumer trust toward environmental communication. Their findings indicate that consumers evaluate eco-labels more positively when environmental claims

are supported by detailed and concrete information. Specific claims appear to reduce uncertainty because they provide consumers with clearer evaluative criteria.

Nevertheless, not all studies reach identical conclusions regarding the effectiveness of environmental claims. Some research suggests that highly detailed sustainability communication may increase cognitive processing demands or create heightened expectations that firms may struggle to satisfy. Janssen et al. (2022) argue that claim specificity can function as a double-edged sword because detailed environmental claims increase both credibility and consumer scrutiny. This contradiction highlights an important issue within green advertising literature. Consumers do not simply evaluate whether sustainability communication is present. Instead, they actively interpret the consistency, plausibility, and authenticity of environmental claims.

Consumer responses to green advertising are also shaped by emotional and symbolic processes. Hartmann and Apaolaza-Ibáñez (2009) emphasize that environmental advertising frequently operates through emotional associations with nature and environmental well-being. Their findings suggest that green advertising may influence consumer attitudes not only through informational persuasion but also through symbolic and affective mechanisms.

However, symbolic environmental communication may also contribute to perceptions of manipulation. Parguel, Benoît-Moreau, and Russell (2015) demonstrate that environmental imagery and symbolic environmental cues may generate misleading impressions even when explicit claims remain relatively vague. Consumers may infer environmental responsibility from visual elements alone, which creates opportunities for symbolic greenwashing.

Another important issue is how environmental concern influences reactions to sustainability communication. Research suggests that environmentally conscious consumers are often

simultaneously more interested in sustainability communication and more skeptical toward environmental claims. Consumers with higher environmental knowledge may process sustainability communication more critically because they possess stronger awareness regarding greenwashing practices and misleading advertising. D'Souza, Taghian, and Lamb (2006) found that consumers differ substantially in their interpretation and evaluation of environmental labels. Their findings indicate that environmental concern and familiarity with sustainability concepts influence how consumers interpret green advertising and assess environmental credibility.

The literature suggests that consumer responses to green advertising are shaped by cognitive, emotional, and symbolic factors. Trust, skepticism, environmental concern, message clarity, and perceived authenticity collectively shape how consumers evaluate sustainability communication. This complexity helps explain why environmental advertising frequently produces inconsistent outcomes across studies. Positive consumer responses are more likely when sustainability communication is perceived as authentic, specific, and credible. Conversely, vague or symbolic communication strategies may activate skepticism and perceptions of greenwashing. These findings are particularly relevant for the present study because they suggest that both framing and claim specificity may significantly influence how consumers interpret sustainability communication. The current research therefore seeks to examine how different combinations of framing and specificity shape perceptions of credibility, greenwashing, brand attitude, and purchase intention.

2.3 Theoretical Foundations

The present study draws upon multiple theoretical perspectives to explain how consumers interpret sustainability communication and evaluate environmental claims. Existing literature suggests that consumer responses to green marketing cannot be explained through a single theoretical

framework. Instead, sustainability communication involves interconnected cognitive, emotional, and evaluative processes associated with persuasion, trust formation, attribution, and skepticism.

One of the most useful theoretical perspectives for understanding sustainability communication is signaling theory. Signaling theory is particularly relevant because consumers cannot directly verify many environmental claims. As a result, sustainability communication functions as a signal regarding corporate values and environmental performance.

Lyon and Montgomery (2015) note that environmental communication often occurs under conditions of information asymmetry in which firms possess greater knowledge regarding actual sustainability practices than consumers. Under such conditions, consumers rely on observable communication signals including certifications, detailed claims, eco-labels, and sustainability disclosures when evaluating environmental credibility. However, signaling theory (Spence, 1973) also highlights the possibility of deceptive signaling. If environmental communication lacks sufficient verification mechanisms, firms may strategically exaggerate environmental responsibility to obtain reputational benefits without implementing substantive environmental improvements. This theoretical logic provides an important foundation for understanding greenwashing.

Attribution theory (Kelley, 1973) represents another important perspective within sustainability communication research. Attribution theory explains how consumers interpret the motives underlying corporate actions and communication. Consumers frequently attempt to determine whether environmental initiatives reflect genuine ethical commitment or self-interested marketing motives.

Forehand and Grier (2003) demonstrate that perceived company intent significantly influences consumer skepticism. When sustainability communication is perceived as primarily profit-driven or manipulative, consumers become more skeptical toward environmental claims. Conversely, communication perceived as sincere and value-driven tends to generate more favorable evaluations. The Persuasion Knowledge Model (Friestad & Wright, 1994) also contributes significantly to understanding consumer responses to green advertising. According to this framework, consumers possess knowledge regarding persuasive tactics and actively evaluate whether marketers are attempting to manipulate attitudes or behaviors. Within sustainability communication contexts, persuasion knowledge becomes particularly relevant because environmental claims often involve moral and ethical dimensions. Consumers may therefore become especially sensitive to exaggeration, vagueness, or symbolic environmental messaging. When consumers perceive persuasive intent as excessive or deceptive, skepticism and resistance may increase.

This perspective aligns closely with skepticism theory (Obermiller & Spangenberg, 1998). Mohr et al. (1998) conceptualize skepticism toward environmental claims as a context-specific cognitive response that reflects doubt regarding the truthfulness of environmental communication. Their research suggests that skepticism functions as a protective evaluative mechanism that consumers use when interpreting uncertain or potentially misleading environmental claims. The Elaboration Likelihood Model further helps explain how consumers process sustainability communication. According to this framework, persuasion occurs through either central or peripheral processing routes depending on motivation and cognitive involvement.

Consumers with high environmental concern or greater sustainability familiarity may process environmental claims through more elaborate cognitive evaluation. Under these conditions, claim

specificity and informational clarity become particularly important because consumers critically assess the credibility and plausibility of environmental communication.

Conversely, consumers with lower involvement may rely more heavily on peripheral cues such as environmental imagery, eco-labels, emotional associations, or symbolic environmental branding. This distinction helps explain why symbolic sustainability communication may influence some consumers positively while simultaneously generating skepticism among more environmentally informed individuals.

Framing theory (Tversky & Kahneman, 1981) also provides an essential foundation for the present study. Framing theory suggests that how information is presented influences interpretation and evaluation. Within sustainability communication, environmental claims may emphasize either personal consumer benefits or broader societal and environmental benefits. Consumer-benefit framing typically focuses on direct personal advantages such as product quality, efficiency, health benefits, or financial savings. Environmental-benefit framing, by contrast, emphasizes ecological protection, sustainability, or collective environmental outcomes. Previous literature suggests that these framing strategies may activate different motivational processes. Self-benefit framing may increase personal relevance and immediate utility perceptions. Environmental framing may appeal more strongly to ethical values, social responsibility, and moral identity.

Consumer trust theory (Morgan & Hunt, 1994) further complements these perspectives by emphasizing the importance of credibility, reliability, and perceived honesty within uncertain consumption contexts. Sustainability communication frequently involves claims that consumers cannot directly verify, making trust a critical mechanism underlying environmental advertising effectiveness. Chen and Chang (2013) demonstrate that green trust is negatively affected by perceived greenwashing because misleading communication increases consumer confusion and

perceived risk. Their findings suggest that trust functions as a central mediator linking environmental communication and consumer behavioral responses. These theories are closely interconnected and together help explain how consumers interpret sustainability communication.

Signaling theory (Spence, 1973) explains why firms use environmental communication to communicate otherwise difficult-to-observe characteristics. Attribution theory explains how consumers evaluate the motives underlying those signals. The Persuasion Knowledge Model and skepticism theory explain how consumers resist or critically evaluate persuasive environmental communication. The Elaboration Likelihood Model explains variations in information processing depth. Framing theory explains how message structure influences interpretation. Finally, consumer trust theory explains how credibility perceptions influence attitudes and behavioral intentions.

Taken together, these theories help explain how framing and claim specificity shape consumer perceptions of credibility, greenwashing, brand attitude, and purchase intention.

2.4 Benefit Framing in Sustainability Communication

Benefit framing is widely discussed within sustainability communication research because it influences how consumers interpret environmental claims. Although firms frequently communicate sustainability initiatives to enhance consumer evaluations, prior research demonstrates that the effectiveness of such communication often depends on whether environmental benefits are framed in terms of personal consumer advantages or broader societal outcomes.

Within the literature, this distinction is commonly conceptualized as egoistic versus altruistic framing. Egoistic or consumer-benefit framing emphasizes direct personal outcomes associated with environmentally responsible products or corporate practices. These benefits may include improved product quality, cost efficiency, health advantages, convenience, durability, or personal

well-being. Altruistic or environmental-benefit framing instead focuses on collective environmental outcomes such as ecological protection, carbon reduction, biodiversity preservation, or long-term sustainability. The theoretical foundation underlying consumer-benefit framing is strongly connected to self-interest motivation and utility-based decision making. Consumers are often expected to prioritize outcomes that provide immediate and personally relevant benefits. As a result, messages emphasizing direct consumer advantages may generate stronger persuasive effects because they increase perceived relevance and reduce psychological distance.

Kareklas, Carlson, and Muehling (2014) provide important insight into this issue through their comparison of egoistic and altruistic appeals within organic food advertising. Their findings suggest that self-benefit framing can generate stronger consumer responses because consumers frequently interpret sustainability through the lens of personal utility. In their study, participants responded more positively when environmental products were associated with direct personal benefits rather than solely collective environmental outcomes.

This perspective aligns with broader consumer behavior research suggesting that individuals frequently evaluate ethical products according to both moral and utilitarian considerations. Pelozo, White, and Shang (2013) argue that ethical consumption decisions are often influenced by self-accountability mechanisms. Consumers may support sustainable products not only because they care about environmental protection but also because sustainable consumption contributes to positive self-perception and reduced anticipated guilt.

However, previous findings remain inconsistent regarding the effectiveness of self-benefit framing. Some scholars argue that excessive emphasis on personal benefits may weaken the perceived authenticity of environmental communication. If sustainability messaging appears overly

commercialized or primarily profit-oriented, consumers may question whether firms are genuinely committed to environmental responsibility.

Environmental-benefit framing remains important because it emphasizes ethical responsibility and collective environmental outcomes. Environmental framing often appeals to ethical identity, social responsibility, and concern for future environmental outcomes. Such appeals may resonate particularly strongly among consumers with higher environmental concern or stronger ecological values. Yet environmental framing also introduces important challenges. Unlike direct consumer benefits, collective environmental outcomes are often psychologically distant and difficult to evaluate concretely. Environmental claims may therefore require stronger substantiation in order to generate trust and credibility.

This relationship becomes more important when consumers evaluate whether sustainability claims appear believable. Consumers may evaluate environmental-benefit framing more critically because such claims are closely associated with corporate morality and ethical responsibility. Consequently, vague environmental claims may generate stronger perceptions of greenwashing than similarly vague self-benefit claims.

Previous research also suggests that the effectiveness of framing may vary according to consumer characteristics and contextual conditions. Environmentally conscious consumers may respond more positively to environmental-benefit framing because such communication aligns with their personal values and ethical identity. Conversely, consumers with lower environmental involvement may prioritize direct functional benefits. The inconsistency of previous findings indicates that framing effects cannot be understood independently from broader communication characteristics. The effectiveness of environmental-benefit framing may depend on whether the claims are supported by clear and concrete evidence.

This issue is especially important for the present study because it suggests that framing and specificity may interact in shaping consumer evaluations. Environmental-benefit framing may need more specific claims to reduce skepticism and improve credibility. Consumer-benefit framing, by contrast, may generate positive evaluations even under lower levels of substantiation because personal utility remains more immediately observable and psychologically relevant. The present study therefore extends prior literature by examining how benefit framing influences purchase intention and brand attitude while simultaneously considering the role of claim specificity.

2.5 Claim Specificity and Message Credibility

Claim specificity has received increasing attention because consumers often find environmental claims difficult to evaluate or verify. Consumers are often unable to independently verify environmental performance claims, making informational clarity and substantiation critical components of persuasive effectiveness.

Specific sustainability claims usually include measurable or verifiable details about environmental performance. Such claims may include numerical indicators, detailed descriptions of environmental practices, certifications, or clearly articulated sustainability outcomes. Vague claims, by contrast, rely on generalized language such as “eco-friendly,” “green,” “sustainable,” or “environmentally responsible” without offering detailed supporting evidence.

The difference between specific and vague claims matters because it affects trust and credibility. Prior research consistently suggests that concrete information increases diagnosticity and reduces uncertainty during consumer evaluation processes.

Ganz and Grimes (2018) demonstrate that claim specificity significantly improves green advertising credibility across product categories. Their findings indicate that consumers perceive

specific environmental claims as more believable because detailed communication signals greater transparency and accountability. Specificity reduces ambiguity and provides consumers with clearer evaluative criteria. Similarly, Atkinson and Rosenthal (2014) found that argument specificity positively affects consumer trust toward eco-labels and environmental communication. Their research suggests that specific sustainability claims reduce skepticism because they appear more difficult to fabricate or manipulate.

The importance of specificity can also be understood through signaling theory. Under conditions of information asymmetry, firms use communication signals to convey otherwise difficult-to-observe characteristics such as environmental responsibility. Specific claims function as stronger signals because they appear more costly to falsify than vague or generalized claims. However, the relationship between specificity and credibility is more complex. Janssen et al. (2022) argue that claim specificity may function as a double-edged sword. While detailed environmental communication generally increases trust, it may simultaneously increase consumer scrutiny and expectations.

This perspective adds an important nuance to sustainability communication research. Consumers do not automatically accept specific claims as credible. Instead, specificity may trigger more elaborate cognitive evaluation. When detailed environmental claims appear inconsistent with broader corporate behavior or existing brand perceptions, consumers may react negatively. Consequently, specificity alone does not guarantee positive consumer evaluations. Rather, the effectiveness of specific sustainability claims depends on perceived consistency, plausibility, and authenticity.

In contrast, vague environmental claims are frequently associated with ambiguity and skepticism. Lyon and Montgomery (2015) note that vague environmental language allows firms to create

positive environmental impressions while avoiding concrete accountability. Such communication strategies may therefore increase perceptions of greenwashing.

Carlson et al. (1993) similarly identified vague and incomplete environmental claims as major sources of misleading advertising practices. Their work remains particularly relevant because it demonstrates that ambiguity within environmental communication has long been recognized as a central issue within green marketing.

Vague environmental claims also influence how consumers cognitively process sustainability communication. Ambiguous environmental claims create interpretive flexibility that allows consumers to infer meanings not explicitly stated by firms. While this flexibility may occasionally generate positive impressions, it also increases uncertainty regarding the authenticity of environmental communication. Mohr et al. (1998) argue that skepticism emerges when consumers perceive insufficient evidence supporting environmental claims. Vague claims may therefore activate protective cognitive mechanisms through which consumers attempt to avoid deception or manipulation.

The relationship between specificity and trust is also closely connected to broader advertising credibility literature. Consumers generally perceive transparent and substantiated communication as more honest and reliable. In sustainability contexts, this issue becomes even more important because environmental responsibility is strongly associated with ethical behavior and corporate integrity.

Specific sustainability claims may therefore strengthen credibility not only by improving informational clarity but also by signaling organizational confidence and accountability. Firms willing to provide measurable details regarding environmental performance may appear more

trustworthy because such communication exposes claims to greater public scrutiny. Nevertheless, prior literature also indicates that consumers increasingly recognize that firms strategically use sustainability communication for reputational purposes. As a result, even detailed claims may generate skepticism if consumers perceive persuasive intent as excessive or manipulative. This contradiction demonstrates that the relationship between specificity and credibility cannot be reduced to a simple linear effect. Instead, specificity interacts with consumer skepticism, prior brand perceptions, environmental concern, and broader evaluations of corporate authenticity. The present study contributes to this literature by examining how specific versus vague sustainability claims influence brand credibility and perceived greenwashing within different framing conditions.

2.6 Greenwashing and Perceived Greenwashing

Greenwashing is now one of the central concepts within sustainability communication research. The term generally refers to misleading environmental communication that creates unjustified positive perceptions regarding a company's environmental performance, sustainability practices, or ecological responsibility. Although environmental communication can contribute positively to sustainability awareness and responsible consumption, the increasing commercialization of sustainability has simultaneously expanded opportunities for deceptive or exaggerated environmental messaging. As environmental responsibility became strategically valuable for corporate reputation and brand positioning, firms gained stronger incentives to communicate environmental commitment even when substantive environmental performance remained limited.

Delmas and Burbano (2011) define greenwashing as the combination of poor environmental performance and positive environmental communication. Their work highlights the discrepancy between symbolic communication and substantive environmental action. Similarly, Lyon and Montgomery (2015) conceptualize greenwashing more broadly as communication that misleads

consumers into forming overly positive beliefs about corporate environmental performance. Recent research no longer treats greenwashing solely as direct deception. Lyon and Montgomery (2015) argue that greenwashing may emerge through multiple forms of communication including selective disclosure, symbolic environmentalism, misleading imagery, incomplete comparisons, vague terminology, and exaggerated environmental framing.

This broader conceptualization is important because many forms of greenwashing operate through implication rather than explicit falsehood. Firms may use environmental imagery, symbolic language, or generalized sustainability terminology that encourages consumers to infer environmental responsibility without providing concrete supporting evidence. Parguel, Benoît-Moreau, and Russell (2015) demonstrate that symbolic environmental cues may create misleading impressions even in the absence of direct factual inaccuracies. Their findings suggest that consumers frequently infer sustainability characteristics from visual and emotional communication elements rather than explicit informational content.

This idea is closely related to symbolic environmentalism. Symbolic environmentalism refers to communication strategies that emphasize environmental identity and appearance rather than substantive ecological performance. Firms may therefore construct environmentally responsible brand images without implementing significant sustainability improvements. The relationship between greenwashing and consumer skepticism is particularly important within the present study. Existing literature consistently demonstrates that perceptions of greenwashing negatively influence trust, brand attitude, and purchase intention.

Chen and Chang (2013) found that greenwashing reduces green trust through increased consumer confusion and perceived risk. Their research demonstrates that misleading environmental communication damages not only perceptions of individual sustainability claims but also broader

evaluations of corporate reliability and integrity. Similarly, Szabo and Webster (2021) show that perceived greenwashing negatively affects both environmental perceptions and product evaluations. Consumers who perceive sustainability communication as deceptive tend to respond less favorably toward brands and demonstrate lower willingness to support environmentally marketed products. Nyilasy et al. (2014) further demonstrate that environmental advertising may backfire when corporate environmental communication appears inconsistent with actual environmental performance. Their findings indicate that consumers actively evaluate the congruence between sustainability claims and broader corporate behavior.

This issue is especially significant because consumers increasingly recognize that firms may strategically use sustainability communication to improve reputation and market positioning. As awareness of greenwashing practices expands, consumers become more attentive to inconsistencies, exaggeration, and ambiguity within environmental communication.

Consequently, contemporary consumers often evaluate sustainability claims with heightened skepticism. Obermiller et al. (2005) argue that advertising skepticism can produce broader distrust toward marketing communication and reduce persuasive effectiveness across contexts. The role of vagueness within greenwashing literature is particularly important. Vague environmental claims frequently lack measurable information, clear definitions, or verifiable evidence. Such ambiguity allows firms to create positive environmental associations without establishing concrete accountability.

Carlson et al. (1993) identified vague environmental claims as one of the most common forms of misleading advertising. Similarly, Kangun et al. (1991) observed that many environmental advertisements relied heavily on generalized ecological terminology without providing specific supporting evidence. The continued use of vague sustainability communication suggests that firms

may use ambiguity strategically in green marketing. Vague claims provide interpretive flexibility because consumers may project positive environmental meanings onto communication that remains intentionally nonspecific. However, this flexibility also creates conditions that increase skepticism and perceived deception. When environmental communication lacks clarity or substantiation, consumers may question whether firms are intentionally avoiding accountability.

Mohr et al. (1998) emphasize that skepticism toward environmental claims is closely connected to perceptions of exaggeration and insufficient evidence. Consumers who perceive sustainability communication as vague or unverifiable may therefore interpret such communication as manipulative. Importantly, perceptions of greenwashing do not simply influence evaluations of individual environmental claims. Existing literature suggests that greenwashing can damage broader brand perceptions and reduce long-term trust.

Forehand and Grier (2003) demonstrate that perceived company motives strongly influence consumer evaluations. Sustainability communication perceived as primarily self-serving or opportunistic tends to produce greater skepticism and resistance.

Newman, Gorlin, and Dhar (2014) similarly show that consumers react negatively when socially beneficial product enhancements appear insincere or strategically manipulative. Their findings suggest that consumers expect environmental initiatives to reflect authentic commitment rather than purely reputational objectives. Overall, previous research suggests that greenwashing damages both communication credibility and consumer trust. Misleading environmental claims undermine credibility because they create uncertainty regarding corporate intentions and environmental authenticity.

At a broader level, greenwashing may also generate negative consequences for sustainability communication more generally. Pollay (1986) argues that deceptive advertising contributes to wider distrust toward corporate communication and may create what he describes as a “community of cynics.” Applied to sustainability contexts, repeated exposure to greenwashing may reduce consumer trust not only toward individual brands but also toward environmental advertising as a whole. This broader loss of trust creates a major challenge for firms trying to communicate legitimate sustainability initiatives. Even organizations engaging in substantive environmental improvements may struggle to establish credibility if consumers increasingly associate environmental communication with exaggeration and manipulation.

The present study contributes to this literature by examining how vague sustainability claims influence perceived greenwashing and how specificity may reduce skepticism and improve credibility.

2.7 Interaction Between Framing and Specificity

Although sustainability framing and claim specificity have each received substantial scholarly attention independently, comparatively limited research examines how these variables interact within environmental communication contexts. This gap is theoretically important because the effectiveness of sustainability framing may depend heavily on the level of informational substantiation supporting environmental claims. Consumers are likely to evaluate framing and specificity together rather than separately. Instead, they interpret environmental communication holistically by considering both message content and communication credibility.

Environmental-benefit framing may depend more strongly on claim specificity because consumers often associate environmental appeals with ethical responsibility and corporate sincerity. When

firms emphasize collective environmental benefits without providing clear evidence, consumers may perceive the communication as symbolic or manipulative. In contrast, consumer-benefit framing may rely more strongly on immediate personal utility. Consumers may therefore respond positively to self-benefit framing even when environmental substantiation remains relatively limited.

This distinction suggests that vague environmental-benefit claims may generate particularly strong skepticism and perceptions of greenwashing. Environmental framing activates moral and ethical expectations that may require greater informational support in order to appear credible. Janssen et al. (2022) indirectly support this possibility by demonstrating that specificity interacts with broader brand perceptions and consumer expectations. Their findings suggest that detailed environmental communication may strengthen credibility when communication appears authentic and consistent.

Similarly, Atkinson and Rosenthal (2014) found that specific environmental arguments increase trust toward eco-label communication. Their research implies that specificity may become particularly important when firms attempt to communicate environmental responsibility rather than direct product utility. The interaction between framing and specificity can also be understood through attribution theory. Consumers exposed to environmental-benefit framing may evaluate whether firms are genuinely motivated by sustainability concerns or strategically attempting to improve corporate image. Specific claims may reduce skepticism because they provide observable indicators supporting environmental commitment. Vague environmental-benefit claims, by contrast, may activate suspicions regarding symbolic environmentalism and reputational opportunism.

The Persuasion Knowledge Model also helps explain why environmental framing may require stronger substantiation. Because sustainability communication frequently involves moral appeals,

consumers may become especially attentive to persuasive intent. When environmental claims appear insufficiently detailed, consumers may infer manipulative motives. Another important issue concerns cognitive processing depth. Consumers with higher environmental concern or sustainability familiarity may evaluate environmental framing more critically because they possess stronger awareness regarding greenwashing practices. Under these conditions, claim specificity may become essential for maintaining credibility. Environmentally conscious consumers may expect firms to provide measurable and transparent environmental evidence when making ecological claims.

Despite the theoretical importance of these interaction mechanisms, existing literature remains fragmented. Most studies examine either framing or specificity independently rather than integrating both variables within a unified experimental framework. As a result, current research still provides limited understanding of how consumers evaluate sustainability communication under realistic marketplace conditions. The present study addresses this gap by examining whether claim specificity moderates the effectiveness of sustainability framing and whether specific environmental claims are evaluated more positively than vague environmental claims.

2.8 Brand Credibility, Brand Attitude, and Purchase Intention

Brand credibility plays a central role in shaping consumer responses to sustainability communication because consumers often cannot independently verify whether firms genuinely engage in sustainable practices. Consequently, perceptions of credibility strongly influence how environmental communication is interpreted and evaluated. Brand credibility generally refers to the extent to which consumers perceive a company or brand as trustworthy, reliable, and capable of fulfilling its communicated promises. In sustainability communication, credibility is closely connected to perceptions of honesty, transparency, and authenticity. Previous literature consistently

demonstrates that credibility plays a central role in determining whether sustainability communication generates positive consumer responses or skepticism. Consumers are more likely to respond favorably to environmental claims when firms appear competent, sincere, and genuinely committed to sustainability. Chen and Chang (2013) emphasize that green trust represents a critical determinant of consumer behavior within sustainability contexts. Their findings demonstrate that perceived greenwashing reduces green trust by increasing consumer confusion and perceived risk. This relationship is important because trust influences not only evaluations of environmental communication but also broader brand attitudes and behavioral intentions.

Previous advertising and consumer behavior research has consistently linked trust to brand attitude. Brand attitude generally refers to consumers' overall evaluative judgment regarding a brand. Positive brand attitudes often emerge when communication is perceived as credible, informative, and consistent with broader corporate behavior. Within sustainability contexts, credibility may influence brand attitude through multiple psychological mechanisms. First, credible environmental communication reduces uncertainty and perceived deception. Second, sustainability credibility may positively influence perceptions of corporate ethics and social responsibility. Third, consumers may associate authentic sustainability practices with higher overall product quality and organizational competence. Nyilasy et al. (2014) demonstrate that environmental advertising may negatively affect brand evaluations when consumers perceive inconsistency between sustainability communication and actual corporate environmental performance. Their findings suggest that credibility depends heavily on perceived congruence between communication and organizational behavior.

This issue highlights the importance of perceived authenticity. Consumers increasingly expect sustainability communication to reflect substantive environmental commitment rather than

symbolic marketing strategy. When environmental claims appear exaggerated or inconsistent, consumers may experience distrust that negatively affects both brand evaluations and behavioral intentions.

Purchase intention represents another central outcome variable within sustainability communication literature. Purchase intention generally reflects consumers' willingness or likelihood to purchase a product or support a brand in the future. Although environmental concern has increased significantly among consumers, previous research demonstrates that positive attitudes toward sustainability do not automatically translate into purchasing behavior. This inconsistency is commonly described within the literature as the attitude-behavior gap.

One explanation for this gap concerns the role of credibility and trust. Consumers may support sustainability conceptually while simultaneously doubting the authenticity of environmental claims presented by firms. Consequently, sustainability communication may fail to influence purchase intention when credibility remains weak. Pizzetti, Gatti, and Seele (2021) argue that perceived greenwashing negatively affects consumer responses toward sustainability communication because consumers interpret deceptive environmental messaging as evidence of opportunistic corporate behavior.

Similarly, Szabo and Webster (2021) demonstrate that perceived greenwashing negatively influences both environmental perceptions and product evaluations. Their findings indicate that distrust generated by misleading sustainability communication may directly reduce willingness to support environmentally marketed products. At the same time, previous literature also demonstrates that credible sustainability communication may positively influence consumer behavior. Specific and transparent environmental claims can enhance trust because consumers perceive such communication as more accountable and verifiable.

Atkinson and Rosenthal (2014) found that argument specificity positively influences consumer trust toward eco-labels and environmental communication. Their findings suggest that consumers respond more favorably when sustainability communication provides concrete and measurable information. The relationship between credibility and purchase intention may also be understood through perceived risk reduction. Sustainability claims often involve uncertainty regarding product quality, environmental performance, or corporate integrity. Credible communication reduces this uncertainty and increases consumer confidence during decision-making processes.

Another important issue concerns the emotional dimension of brand evaluation. Sustainability communication frequently influences consumer attitudes through symbolic and moral associations rather than purely functional information.

Hartmann and Apaolaza-Ibáñez (2009) argue that green advertising can generate positive emotional responses through associations with nature, environmental harmony, and personal well-being. Such emotional mechanisms may strengthen brand attachment and improve consumer evaluations when communication appears authentic. However, emotional environmental communication may also backfire if consumers perceive symbolic messaging as manipulative or insincere. This again demonstrates the central importance of credibility within sustainability communication.

The literature therefore suggests that credibility functions as a key mechanism linking sustainability communication to brand attitude and purchase intention. Environmental claims that appear transparent, specific, and authentic are more likely to generate positive consumer responses. Conversely, vague or misleading claims may reduce trust and damage both brand evaluations and behavioral intentions. The present research contributes to this literature by examining how framing and claim specificity jointly influence brand credibility, brand attitude, and purchase intention.

2.9 Control Variables

Consumer responses to sustainability communication are influenced not only by message characteristics but also by individual differences among consumers. Individual differences in environmental attitudes, knowledge, and prior experiences significantly influence how consumers interpret sustainability communication. The current study includes environmental concern and sustainability familiarity as control variables because existing literature consistently demonstrates that these factors shape perceptions of environmental credibility, skepticism, and persuasion effectiveness.

Environmental concern refers to the extent to which individuals consider environmental issues personally important. Consumers with stronger environmental concern are typically more attentive to sustainability communication and more likely to consider environmental information during purchase decisions. However, the relationship between environmental concern and responses to sustainability communication is not entirely straightforward. Although environmentally concerned consumers may express stronger support for sustainable products, they may also demonstrate greater skepticism toward corporate environmental claims.

This increased skepticism may emerge because environmentally concerned consumers possess stronger awareness regarding greenwashing practices and misleading sustainability communication. As a result, such consumers may evaluate environmental claims more critically and demand greater informational substantiation. Mohr et al. (1998) suggest that skepticism toward environmental claims varies according to individual consumer characteristics and prior experiences with environmental advertising. Consumers with greater environmental involvement may therefore become more sensitive to vagueness, inconsistency, and symbolic environmental messaging.

Similarly, Parguel et al. (2015) found that consumers with lower environmental knowledge were more susceptible to symbolic environmental cues and executional greenwashing. Their findings imply that environmentally informed consumers may be better able to identify manipulative sustainability communication strategies. Sustainability familiarity represents another important variable influencing consumer evaluations. Familiarity generally refers to the extent to which consumers possess prior knowledge or awareness regarding sustainability concepts, environmental practices, and ecological terminology.

Consumers with higher sustainability familiarity may process environmental claims more analytically because they possess greater knowledge regarding sustainability standards and environmental communication practices. Such consumers may therefore rely more heavily on claim specificity and informational clarity when evaluating environmental credibility.

The Elaboration Likelihood Model provides useful insight into this relationship. Consumers with greater sustainability familiarity may engage in more elaborate cognitive processing because environmental issues are personally relevant and cognitively accessible. Under these conditions, vague claims may become especially problematic because knowledgeable consumers are more likely to recognize ambiguity and insufficient substantiation. Conversely, consumers with lower sustainability familiarity may rely more heavily on peripheral cues such as imagery, emotional tone, or symbolic environmental associations.

Research also suggests that environmental concern and sustainability familiarity may interact with framing effects. Environmentally involved consumers may respond more positively to environmental-benefit framing because such appeals align with personal values and ethical identity. At the same time, these consumers may also demand stronger substantiation for environmental claims. Consequently, environmental framing combined with vagueness may generate particularly

strong skepticism among environmentally informed consumers. Including environmental concern and sustainability familiarity as control variables helps account for individual differences in how consumers interpret sustainability communication.

2.10 Conceptual Framework

The conceptual framework of the present study integrates sustainability communication literature, greenwashing research, framing theory, and advertising credibility theory within a unified experimental model. The framework proposes that consumer responses to sustainability communication are influenced by two primary communication characteristics: benefit framing and claim specificity.

Benefit framing refers to whether sustainability communication emphasizes direct consumer benefits or broader environmental benefits. Consumer-benefit framing highlights personal advantages such as product quality, efficiency, or individual well-being. Environmental-benefit framing emphasizes ecological protection and collective environmental outcomes. Claim specificity refers to the degree of informational concreteness and substantiation associated with sustainability communication. Specific claims provide measurable and detailed environmental information, whereas vague claims rely on generalized sustainability terminology without sufficient supporting evidence.

The framework assumes that framing and claim specificity shape how consumers evaluate credibility and greenwashing. Credibility functions as a positive evaluative mechanism that increases trust and strengthens favorable brand responses. Perceived greenwashing functions as a negative evaluative mechanism that increases skepticism and distrust. These perceptions subsequently influence brand attitude and purchase intention.

The framework also assumes that framing and specificity may interact. Environmental-benefit framing may require greater specificity because environmental claims are closely associated with ethical responsibility and corporate authenticity. Specific environmental claims may therefore reduce skepticism and strengthen credibility more effectively than vague environmental claims. Environmental concern and sustainability familiarity are incorporated as control variables because they influence how consumers process and evaluate sustainability communication. Overall, the framework suggests that consumer responses depend on both message structure and perceived credibility.

2.11 Research Gap and Contribution

Although sustainability communication has received extensive scholarly attention, existing literature remains fragmented across several interconnected research streams. Previous studies have examined greenwashing, eco-label effectiveness, environmental framing, advertising credibility, and sustainability skepticism independently. However, comparatively limited research integrates these variables within a unified conceptual framework.

One major limitation concerns the separation between framing research and greenwashing literature. Studies investigating sustainability framing frequently focus on persuasive effectiveness without sufficiently considering how framing strategies may influence skepticism and perceptions of deception. Similarly, greenwashing research often examines misleading environmental communication broadly without systematically investigating how specific message structures influence consumer evaluations.

Another important limitation concerns claim specificity. Although prior studies demonstrate that specific sustainability claims generally improve credibility, relatively limited research examines

how specificity interacts with framing strategies. This omission is theoretically significant because environmental-benefit framing may require stronger substantiation than consumer-benefit framing in order to maintain credibility and avoid skepticism.

Existing literature also remains inconsistent regarding the effectiveness of environmental versus self-benefit appeals. Some studies suggest that consumer-benefit framing generates stronger persuasive outcomes because it increases personal relevance. Other studies indicate that environmental appeals may resonate more strongly among ethically motivated consumers. These inconsistencies suggest that framing effects may depend on broader communication characteristics including informational clarity and perceived authenticity. Methodological limitations further contribute to fragmentation within the literature. Many prior studies rely on between-subject experimental designs, conceptual analyses, or cross-sectional surveys. Comparatively few studies employ within-subject experimental approaches capable of directly comparing consumer responses across multiple sustainability communication conditions.

This thesis contributes to existing literature in several important ways. First, the research integrates framing theory, greenwashing literature, and advertising credibility research within a single conceptual framework. Second, this thesis examines both main effects and interaction effects between benefit framing and claim specificity. Third, the research contributes methodologically by employing a within-subject experimental design that allows direct comparison across sustainability communication conditions. Fourth, it contributes theoretically by examining how credibility and perceived greenwashing jointly shape brand attitude and purchase intention. Finally, the research contributes practically by providing insight into how firms can communicate sustainability initiatives more effectively while reducing consumer skepticism and perceptions of greenwashing.

CHAPTER 3: HYPOTHESIS DEVELOPMENT

3.1 Development of H1

The first hypothesis examines whether consumer-benefit framing generates more favorable consumer responses than environmental-benefit framing. Existing sustainability communication literature suggests that message framing significantly influences how consumers interpret environmental claims and evaluate marketed products. Framing theory proposes that individuals respond differently to information depending on how that information is presented. Within sustainability communication, firms may emphasize either direct consumer benefits or broader environmental outcomes. Although both approaches communicate sustainability, they activate different psychological motivations and evaluative processes. Consumer-benefit framing emphasizes personal advantages associated with sustainable products or corporate practices. Such benefits may include product performance, efficiency, health improvement, convenience, or financial savings. Environmental-benefit framing instead emphasizes ecological protection, sustainability, or collective environmental outcomes. Previous research suggests that self-interest motives strongly influence consumer decision making. Consumers frequently prioritize outcomes that generate immediate and personally relevant advantages. Consequently, sustainability communication emphasizing direct consumer utility may produce stronger persuasive effects.

Kareklas et al. (2014) found that egoistic appeals generated more favorable responses within organic product advertising because consumers perceived stronger personal relevance. Their findings suggest that self-benefit framing may strengthen consumer engagement by connecting sustainability to direct individual outcomes. Similarly, Pelozo et al. (2013) argue that ethical consumption decisions are often motivated by a combination of altruistic concern and self-oriented psychological benefits. Sustainable consumption may enhance self-image, reduce anticipated guilt,

and strengthen perceptions of responsible identity. This perspective aligns with broader consumer behavior research suggesting that personally relevant information receives greater cognitive attention and persuasive effectiveness. Environmental-benefit framing may appear psychologically distant because collective ecological outcomes are less immediately observable than direct product-related benefits. However, prior findings remain inconsistent. Some studies suggest that environmental-benefit framing may positively influence consumers with stronger environmental values and ethical orientations. Environmentally concerned consumers may interpret altruistic sustainability communication as more morally authentic and socially responsible. Nevertheless, even environmentally motivated consumers may still evaluate products according to functional and personal criteria. Sustainable products frequently compete within mainstream commercial markets where consumers continue prioritizing quality, value, convenience, and performance.

Consumer-benefit framing may therefore generate stronger purchase intention because it reduces the perceived trade-off between sustainability and personal utility. Consumers may perceive sustainable products as beneficial not only for the environment but also for themselves. This issue is particularly relevant in product categories such as consumer electronics where functional performance, efficiency, and product quality strongly influence purchasing decisions. Sustainability communication emphasizing direct user benefits may therefore appear more practically relevant and behaviorally persuasive. At the same time, environmental-benefit framing may create higher expectations regarding corporate authenticity and environmental responsibility. Consumers exposed to environmental appeals may critically evaluate whether firms genuinely prioritize sustainability or strategically use ecological messaging for reputational purposes. As a result, environmental framing may trigger greater skepticism when claims are not sufficiently supported by evidence.

Based on these theoretical arguments and previous findings, the present study expects consumer-benefit framing to generate more positive brand attitudes and stronger purchase intention than environmental-benefit framing. Accordingly, the following hypothesis is proposed:

H1: Consumer-benefit framing leads to higher purchase intention and more positive brand attitudes than environmental-benefit framing.

3.2 Development of H2

The second hypothesis examines the relationship between claim specificity, brand credibility, and perceived greenwashing. Sustainability communication frequently occurs under conditions of information asymmetry because consumers cannot easily verify environmental claims independently. As a result, informational clarity and claim substantiation become essential determinants of perceived credibility. Specific sustainability claims provide measurable and concrete information regarding environmental performance. Such claims may include numerical indicators, certifications, technical explanations, or detailed descriptions of environmental initiatives. Vague claims, by contrast, rely on generalized sustainability language without sufficient supporting evidence. Expressions such as “eco-friendly” or “green” may create positive environmental associations while providing little meaningful information regarding actual environmental performance.

Prior literature consistently suggests that consumers perceive specific environmental claims as more credible because specificity reduces ambiguity and increases informational diagnosticity.

Ganz and Grimes (2018) demonstrate that claim specificity significantly enhances green advertising credibility. Their findings suggest that detailed environmental communication signals transparency and organizational accountability. Similarly, Atkinson and Rosenthal (2014) found

that argument specificity positively influences consumer trust toward eco-labels and sustainability communication. Consumers may perceive specific claims as more trustworthy because they appear easier to verify. Signaling theory provides an important explanation for this relationship. Under conditions of uncertainty, firms use communication signals to communicate otherwise difficult-to-observe characteristics such as sustainability commitment. Specific claims function as stronger signals because they appear more costly to imitate dishonestly. Consumers may see specific sustainability claims as more transparent and trustworthy. In contrast, vague sustainability communication frequently increases uncertainty and skepticism. Lyon and Montgomery (2015) argue that vague environmental language enables firms to create positive environmental impressions without committing to concrete accountability. Carlson et al. (1993) similarly identified vague environmental claims as one of the most common forms of misleading advertising. Their findings suggest that ambiguity within sustainability communication increases the likelihood of perceived deception.

The relationship between specificity and greenwashing is particularly important. Consumers increasingly recognize that firms strategically use sustainability communication for reputational purposes. As awareness of greenwashing expands, consumers may become especially skeptical toward environmental claims lacking concrete substantiation. Mohr et al. (1998) emphasize that skepticism toward environmental claims emerges when consumers perceive insufficient evidence supporting sustainability communication. Vague claims may therefore activate protective evaluative mechanisms through which consumers attempt to avoid deception.

Specific sustainability claims may reduce perceived greenwashing because they provide clearer informational standards against which consumers can evaluate environmental communication. However, prior literature also suggests that specificity alone does not guarantee credibility.

Consumers may still evaluate whether environmental claims appear plausible, authentic, and consistent with broader corporate behavior. Nevertheless, the overall direction of previous findings indicates that specificity generally strengthens credibility and reduces skepticism relative to vague communication. Based on these theoretical arguments and empirical findings, the present study proposes the following hypothesis:

H2: Specific sustainability claims increase brand credibility and reduce perceived greenwashing compared to vague claims.

3.3 Development of H3

The third hypothesis examines whether vague sustainability claims increase perceived greenwashing. Greenwashing literature consistently emphasizes the role of ambiguity, exaggeration, and symbolic communication in generating perceptions of deception. Vague sustainability claims often rely on generalized ecological terminology without providing sufficient evidence regarding actual environmental performance. Such communication may create positive environmental impressions while avoiding measurable accountability. Lyon and Montgomery (2015) argue that vague environmental communication constitutes one of the most common mechanisms through which firms engage in greenwashing. Ambiguity enables organizations to appear environmentally responsible without exposing claims to detailed verification.

Similarly, Carlson et al. (1993) identified vagueness and incomplete environmental information as major characteristics of misleading environmental advertising. The cognitive effects of vagueness are especially important within sustainability contexts because environmental claims are frequently difficult to verify independently. Consumers must therefore rely heavily on communication

credibility when evaluating sustainability claims. When environmental communication lacks specificity, consumers may perceive firms as intentionally avoiding transparency or accountability.

Mohr et al. (1998) suggest that skepticism toward environmental claims increases when consumers perceive insufficient evidence supporting sustainability communication. Vague claims therefore create conditions that activate uncertainty and distrust. The Persuasion Knowledge Model further explains why vague sustainability communication may increase perceived greenwashing. Consumers possess awareness regarding persuasive tactics and may interpret ambiguous environmental language as evidence of manipulative intent. This issue becomes particularly relevant because sustainability communication frequently involves moral and ethical dimensions. Consumers may therefore evaluate environmental claims more critically than conventional product advertising. Parguel et al. (2015) demonstrate that symbolic environmental communication may generate misleading impressions even without explicit factual inaccuracies. Their findings indicate that consumers may infer environmental responsibility from imagery and symbolic cues rather than substantive information. This symbolic dimension increases the risk that consumers perceive environmental communication as superficial or opportunistic.

Perceived greenwashing also appears closely connected to evaluations of corporate sincerity. Forehand and Grier (2003) found that consumers become more skeptical when corporate communication appears primarily self-serving or strategically manipulative. Similarly, Newman et al. (2014) demonstrate that consumers react negatively when socially beneficial initiatives appear insincere or reputation-driven. The literature therefore suggests that vagueness contributes to perceived greenwashing because ambiguous sustainability communication increases uncertainty regarding corporate motives, authenticity, and accountability. Consumers exposed to vague environmental claims may suspect that firms are strategically attempting to create positive

environmental impressions without providing meaningful evidence. Based on these theoretical arguments and empirical findings, the following hypothesis is proposed:

H3: Vague sustainability claims increase perceived greenwashing.

3.4 Development of H4

The fourth hypothesis examines whether specific environmental claims are evaluated more positively than vague environmental claims. This hypothesis builds upon the interaction between sustainability framing and claim specificity. Existing literature suggests that environmental-benefit framing may be particularly dependent on informational substantiation because environmental appeals activate ethical expectations and corporate authenticity concerns. Environmental-benefit framing emphasizes collective ecological outcomes and broader social responsibility. Consumers exposed to such appeals may therefore evaluate whether firms genuinely demonstrate environmental commitment or strategically use sustainability messaging for reputational purposes. Attribution theory provides important insight into this issue. Consumers attempt to infer the motives underlying corporate environmental communication. When environmental claims appear vague or insufficiently substantiated, consumers may infer opportunistic or manipulative intentions. Specific environmental claims may reduce this skepticism because they provide observable evidence supporting environmental commitment. Atkinson and Rosenthal (2014) found that specific environmental arguments strengthen consumer trust toward sustainability communication. Their findings suggest that specificity improves credibility because detailed claims appear more transparent and accountable.

Similarly, Janssen et al. (2022) demonstrate that specificity influences how consumers evaluate environmental communication credibility and authenticity. The relationship between

environmental framing and specificity can also be understood through the Elaboration Likelihood Model. Consumers with higher environmental concern may process environmental claims more critically because ecological issues are personally relevant and cognitively important. Under these conditions, vague environmental claims may appear insufficiently credible. Specificity therefore becomes essential for maintaining trust and reducing skepticism. The Persuasion Knowledge Model further suggests that environmental-benefit framing may activate stronger awareness of persuasive intent because sustainability communication frequently involves moral appeals. Consumers may therefore become especially attentive to inconsistencies, ambiguity, or insufficient evidence within environmental communication. Specific environmental claims may consequently generate more positive evaluations because they reduce uncertainty and strengthen perceptions of sincerity. In contrast, vague environmental-benefit claims may generate stronger perceptions of greenwashing because consumers expect firms making ethical and ecological claims to provide concrete substantiation. The present study therefore expects environmental-benefit framing to be evaluated more positively when environmental claims are specific rather than vague. Accordingly, the following hypothesis is proposed:

H4: Specific environmental claims are evaluated more positively than vague environmental claims.

CONCLUSION OF THE LITERATURE REVIEW

The literature reviewed throughout this thesis demonstrates that sustainability communication represents a highly complex and multidimensional area of consumer research. Although environmental awareness and demand for sustainable products have increased substantially, consumer responses toward sustainability communication remain shaped by skepticism, credibility concerns, and perceptions of authenticity. Previous research consistently demonstrates that environmental communication effectiveness depends not only on the presence of sustainability

claims but also on how such claims are framed and substantiated. The literature further indicates that vague environmental communication frequently increases skepticism and perceptions of greenwashing, while specific and transparent claims tend to strengthen credibility and trust. At the same time, prior findings regarding sustainability framing remain inconsistent. Consumer-benefit framing may increase persuasive effectiveness through enhanced personal relevance, whereas environmental-benefit framing may appeal more strongly to ethical identity and ecological concern. However, environmental framing also appears particularly vulnerable to skepticism when sustainability communication lacks sufficient specificity. The review additionally highlights the importance of integrating multiple theoretical perspectives including signaling theory, attribution theory, skepticism theory, framing theory, the Persuasion Knowledge Model, and consumer trust theory. Together, these perspectives suggest that consumer evaluations of sustainability communication emerge through the interaction of persuasive framing, informational clarity, trust formation, and skepticism. Despite extensive prior literature, important gaps remain regarding how framing and claim specificity jointly influence perceptions of credibility, greenwashing, brand attitude, and purchase intention. The present study addresses these gaps through a unified experimental framework that examines both main effects and interaction effects within sustainability communication. The following chapter will present the methodological approach used to empirically test the proposed hypotheses and examine consumer responses toward different sustainability communication strategies.

CHAPTER 4: METHODOLOGY

4.1 Research Design

The present study adopts a quantitative experimental research design in order to examine how different sustainability communication strategies influence consumer perceptions and evaluations.

Experimental research designs are particularly appropriate when the objective is to investigate causal relationships between manipulated variables and consumer responses. Because the current thesis examines how specific communication characteristics shape perceptions of credibility, greenwashing, brand attitude, and purchase intention, an experimental approach provides a suitable methodological framework.

The study specifically employs a 2×2 within-subject experimental design. The design includes two independent variables: benefit framing and claim specificity. Benefit framing consists of two levels, namely consumer-benefit framing and environmental-benefit framing. Claim specificity also consists of two levels, namely specific sustainability claims and vague sustainability claims.

The combination of these variables produces four experimental conditions:

1. Consumer-benefit framing with specific sustainability claims
2. Consumer-benefit framing with vague sustainability claims
3. Environmental-benefit framing with specific sustainability claims
4. Environmental-benefit framing with vague sustainability claims

A within-subject design was selected because every participant evaluates all four experimental conditions. This approach allows participants to serve as their own controls, thereby reducing between-subject variability and increasing statistical sensitivity. Compared with between-subject designs, within-subject approaches generally require smaller sample sizes while providing stronger statistical power for detecting differences across conditions. The within-subject structure is particularly valuable in the context of sustainability communication because consumer interpretations of environmental messaging may vary substantially across individuals. Allowing the same participant to evaluate all four communication conditions makes it possible to compare

responses under relatively controlled cognitive conditions. Another advantage of the within-subject design concerns the ability to examine interaction effects more precisely. Since participants are exposed to both framing types and both levels of specificity, the design allows the study to investigate whether claim specificity changes the effectiveness of environmental versus consumer-benefit communication. At the same time, within-subject designs may create risks associated with order effects, fatigue effects, or carryover effects. To reduce these risks, the presentation order of experimental conditions was randomized using Qualtrics randomization functions. Randomization helps reduce systematic bias associated with repeated exposure to multiple stimuli.

The study focuses on sustainability communication within the consumer electronics industry. Participants evaluate sustainability-oriented brand messages associated with a fictional consumer electronics company named “Ecolyra.” The use of a fictional brand minimizes the influence of pre-existing brand familiarity, prior attitudes, or corporate reputation. Overall, the selected research design aligns closely with the objectives of the thesis because it allows direct examination of how framing and claim specificity influence consumer responses toward sustainability communication.

4.2 Experimental Conditions

The experimental design consists of four distinct communication conditions created through the combination of benefit framing and claim specificity.

The first condition combines consumer-benefit framing with specific sustainability claims. In this condition, sustainability communication emphasizes direct consumer advantages while also providing concrete and measurable environmental information. The communication therefore attempts to increase both personal relevance and informational credibility. The second condition combines consumer-benefit framing with vague sustainability claims. The message continues

emphasizing direct consumer advantages but relies on broader and less substantiated sustainability language. This condition allows examination of whether consumer-oriented framing remains persuasive when informational specificity is limited. The third condition combines environmental-benefit framing with specific sustainability claims. In this condition, sustainability communication emphasizes ecological protection and collective environmental outcomes while also providing detailed environmental information. This condition is particularly important because environmental-benefit framing may require stronger substantiation in order to appear credible. The fourth condition combines environmental-benefit framing with vague sustainability claims. The communication focuses on ecological responsibility and environmental contribution while relying on generalized environmental terminology without detailed supporting evidence. Together, these conditions make it possible to examine both the independent and combined effects of framing and specificity.

The manipulation of benefit framing was designed to distinguish between self-oriented and environment-oriented sustainability communication. Consumer-benefit framing focused on direct individual outcomes such as product efficiency, practical value, or user-related advantages. Environmental-benefit framing instead emphasized ecological sustainability, environmental responsibility, and broader societal outcomes. The manipulation of claim specificity focused on the level of informational concreteness within sustainability communication. Specific claims included clearer and more measurable sustainability information, whereas vague claims relied on generalized environmental wording without detailed substantiation. These manipulations directly correspond to the study hypotheses.

H1 examines whether consumer-benefit framing generates higher purchase intention and more positive brand attitudes than environmental-benefit framing.

H2 examines whether specific sustainability claims improve credibility and reduce perceived greenwashing.

H3 investigates whether vague sustainability claims increase perceptions of greenwashing.

H4 examines whether specific environmental claims are evaluated more positively than vague environmental claims.

The four-condition structure therefore provides a systematic framework for testing both main effects and interaction effects.

4.3 Stimuli Development

The experimental stimuli used in the present study consisted of short sustainability-oriented brand descriptions associated with a fictional consumer electronics company named “**Ecolyra**.”

The decision to use a fictional brand was methodologically important because existing attitudes toward real companies could significantly influence consumer evaluations. If established commercial brands had been used, participants’ responses might have reflected prior brand familiarity, existing trust levels, corporate reputation, or personal product experiences rather than reactions to the sustainability communication itself. Using a fictional brand therefore helped isolate the effects of framing and claim specificity by reducing external brand-related influences.

The consumer electronics industry was selected because sustainability communication has become increasingly common within technology-related markets. Consumer electronics companies frequently emphasize environmental responsibility through claims regarding energy efficiency, recyclable materials, sustainable production processes, and carbon reduction initiatives. This context was considered appropriate because participants are generally familiar with sustainability messaging within technology and electronics industries.

The stimuli were designed to manipulate two communication dimensions simultaneously: benefit framing and claim specificity. Benefit framing was manipulated by changing the primary emphasis of the sustainability message. Consumer-benefit conditions focused on direct user-related advantages such as product efficiency, convenience, or personal value. Environmental-benefit conditions instead emphasized ecological protection and environmental contribution. Claim specificity was manipulated by varying the level of informational detail included in the sustainability communication. Specific conditions contained more concrete and measurable environmental descriptions. Vague conditions used broader sustainability language without providing precise supporting details. Care was taken to maintain overall similarity across conditions in terms of length, structure, and general tone. This was important because substantial differences in message complexity or wording could unintentionally influence participant evaluations. The stimuli were intentionally designed to resemble realistic sustainability communication commonly used in corporate advertising and product branding.

Because the study examines perceptions of sustainability communication rather than objective environmental performance, the focus of the manipulation was on how the communication was framed and substantiated rather than on factual ecological comparisons. The final stimuli were integrated into the Qualtrics survey platform and presented to participants in randomized order.

4.4 Survey Structure

The survey was designed and implemented using Qualtrics. Qualtrics was selected because it provides experimental functionality including randomization procedures, multilingual survey support, display logic, matrix-style response formats, and flexible question sequencing.

The survey was available in both English and Turkish. At the beginning of the questionnaire, participants selected their preferred language through a language selection item. The multilingual structure was intended to improve accessibility and participant comprehension. The survey followed a structured sequence intended to guide participants through the research process in a clear and organized manner.

The first section involved language selection. Allowing participants to choose between English and Turkish was intended to improve comprehension and reduce potential misunderstanding associated with complex sustainability terminology. The second section presented the informed consent form. Participants were informed about the purpose of the study, voluntary participation, anonymity, confidentiality, and withdrawal rights. The third section included demographic questions. Participants provided information regarding age, gender, and education level. The fourth section introduced the experimental instructions. Participants were instructed to read each scenario carefully and evaluate every sustainability message independently. They were also informed that there were no correct or incorrect answers and that responses should reflect immediate impressions. The fifth section contained the experimental stimuli. Participants were exposed to all four sustainability communication conditions associated with the fictional brand Ecolyra. Each scenario was presented separately in order to encourage independent evaluation of the communication message.

The order of presentation was randomized in order to reduce potential order effects and response bias. Randomization was especially important because repeated exposure to multiple sustainability messages could otherwise influence later evaluations through comparison effects or response habituation. Following each scenario, participants completed dependent variable measures using seven-point Likert scales ranging from strongly disagree to strongly agree.

Each scenario included measures of:

- purchase intention
- brand credibility/trust
- brand attitude
- perceived greenwashing

Each construct was measured using two items, resulting in eight evaluative items per scenario and thirty-two total evaluations per participant.

After the experimental conditions, participants completed control variable measures related to environmental concern and sustainability familiarity. The final section consisted of a debriefing and thank-you page. The overall survey structure was designed to maintain clarity, reduce participant confusion, and support systematic evaluation of all communication conditions.

4.5 Participants and Sampling

The target population of the present study consisted of adult consumers capable of evaluating sustainability-oriented marketing communication within a consumer product context. Since the study examines consumer perceptions of environmental advertising and sustainability messaging, it was important to recruit participants who regularly encounter brand communication and are familiar with consumer products and advertising practices. Participants were recruited through online distribution channels using convenience sampling techniques. The survey link was shared digitally in order to facilitate participation across different demographic groups and allow efficient online data collection. The use of convenience sampling was considered appropriate for the purposes of the study because the research primarily focuses on identifying causal relationships

between communication manipulations and consumer responses rather than generating nationally representative market estimates.

The study employed a within-subject experimental design in which every participant evaluated all four sustainability communication conditions. Because repeated-measures designs generally increase statistical efficiency and reduce unexplained between-subject variation, the required sample size was lower than would typically be necessary in a comparable between-subject experiment.

Prior to data collection, a statistical power estimation was conducted in order to determine an appropriate target sample size for the repeated-measures design. Using conventional assumptions including an alpha level of .05, statistical power of .80, and a medium expected effect size, the analysis suggested that approximately thirty to thirty-six participants would be sufficient for detecting medium-sized effects. However, because smaller effects are common within consumer perception research, the study aimed to recruit approximately seventy participants in order to improve statistical stability and increase reliability of the findings.

Participation was voluntary and participants were free to discontinue the survey at any point without consequence. Participants were also informed that the study focused exclusively on consumer perceptions of sustainability communication and that there were no correct or incorrect answers. This was intended to reduce evaluation pressure and encourage more natural responses throughout the experiment.

Inclusion criteria required participants to:

- be at least eighteen years old
- understand the survey language selected

- complete all experimental conditions
- provide sufficiently complete responses for analysis

Demographic information was collected in order to describe the sample and account for potential variation across participants. Collecting demographic data also made it possible to better contextualize the characteristics of the final sample and identify whether substantial demographic imbalance emerged during recruitment.

Participants reported:

- age
- gender
- education level

Gender response categories included:

- male
- female
- other

Education categories ranged from primary education to postgraduate education.

Although convenience sampling improves feasibility and accessibility, it also introduces limitations regarding external validity and generalizability. Participants recruited online may not fully represent broader consumer populations across countries, cultures, income levels, or purchasing behaviors. Individuals who participate in online surveys may also differ systematically from non-participants in terms of digital familiarity, education level, or interest in sustainability-

related topics. Despite these limitations, the selected sampling strategy remains consistent with a large portion of experimental consumer behavior research examining advertising effectiveness and sustainability communication. Since the primary purpose of the study is to examine causal relationships between manipulated communication conditions rather than estimate population prevalence, the approach was considered methodologically appropriate for the objectives of the thesis.

4.6 Data Collection Procedure

Data collection was conducted online using the Qualtrics survey platform. Participants accessed the survey through a distributed survey link and completed the questionnaire electronically. Before beginning the study, participants reviewed the informed consent section and confirmed voluntary participation. After consent was obtained, participants completed demographic questions and proceeded to the experimental phase of the survey. Participants were exposed to all four sustainability communication conditions associated with the fictional brand Ecolyra. The presentation order of conditions was randomized automatically through Qualtrics in order to reduce systematic order effects and carryover effects.

After reading each scenario, participants completed the dependent variable items using seven-point Likert scales. Responses were recorded automatically through the survey platform and stored anonymously. Participants were informed that the study involved no risks beyond ordinary daily experiences and that all responses would remain confidential. The online data collection procedure was advantageous because it allowed participants to complete the survey in a flexible environment using personal devices. At the same time, online self-administered surveys may reduce researcher control over participant attention and engagement. To reduce these concerns, participants received clear instructions encouraging careful reading and independent evaluation of each condition. The

online survey format allowed participants to complete the questionnaire independently using personal devices and within flexible settings. This flexibility improved accessibility and participation convenience while also allowing systematic exposure to all experimental conditions under standardized survey structure.

4.7 Measurement of Variables

The present study measured four primary dependent variables: purchase intention, brand credibility and trust, brand attitude, and perceived greenwashing. In addition, environmental concern and sustainability familiarity were included as control variables. All evaluative items were measured using seven-point Likert scales ranging from strongly disagree to strongly agree. The use of Likert-type scales was considered appropriate because the study focuses on subjective consumer perceptions and attitudinal evaluations. The questionnaire structure was designed to ensure consistency across all experimental conditions. After exposure to each sustainability message, participants responded to the same set of evaluative items. This repeated structure improved comparability across conditions and supported within-subject analysis.

Purchase Intention

Purchase intention refers to the likelihood that a consumer would consider purchasing or supporting a product after exposure to sustainability communication. Within consumer behavior literature, purchase intention is commonly used as a behavioral outcome variable because it reflects future consumption willingness and evaluative acceptance. In the present study, purchase intention was operationalized through participant agreement with statements measuring willingness to consider or potentially purchase products associated with the presented sustainability message. The construct was included because the study aims to examine whether sustainability framing and claim

specificity influence behavioral responses toward environmentally marketed products. Purchase intention is particularly important within green marketing research because positive sustainability attitudes do not always translate into actual consumer behavior. Measuring purchase intention therefore provides insight into whether sustainability communication produces meaningful persuasive outcomes beyond general attitudinal reactions.

Brand Credibility and Trust

Brand credibility and trust refer to the extent to which consumers perceive the communicated sustainability claims as believable, reliable, and honest. Credibility is especially important within sustainability communication because environmental claims frequently involve information that consumers cannot independently verify. The construct was operationalized using items measuring perceived trustworthiness and believability of the sustainability communication associated with the fictional brand. Brand credibility was included because existing literature consistently demonstrates that trust plays a central role in shaping responses toward environmental advertising and sustainability communication. The measurement of credibility was particularly important for testing hypotheses related to claim specificity and perceived greenwashing.

Brand Attitude

Brand attitude refers to participants' overall evaluative perception of the fictional brand after exposure to the sustainability communication. Within advertising and consumer behavior research, brand attitude is commonly understood as a general positive or negative evaluation formed through exposure to marketing communication. In the present study, brand attitude was operationalized using evaluative items measuring the extent to which participants viewed the brand favorably after reading the sustainability message. Brand attitude was included because sustainability

communication may influence not only credibility perceptions but also broader emotional and evaluative reactions toward the brand itself. The construct is also directly relevant for testing whether consumer-benefit framing generates more favorable evaluations than environmental-benefit framing.

Perceived Greenwashing

Perceived greenwashing refers to the extent to which participants interpret sustainability communication as misleading, exaggerated, manipulative, or insufficiently authentic. The construct was operationalized through items measuring whether participants believed the sustainability communication appeared vague, deceptive, or environmentally overstated. Perceived greenwashing represents one of the central constructs of the study because the thesis specifically examines whether vague sustainability communication increases skepticism and perceptions of manipulation. Measuring perceived greenwashing also makes it possible to investigate whether specific environmental claims reduce suspicion and improve communication credibility.

Environmental Concern

Environmental concern was included as a control variable because prior literature suggests that environmentally concerned consumers may process sustainability communication differently from less environmentally involved consumers. The construct generally refers to the extent to which individuals care about environmental protection and ecological issues. Participants responded to items measuring personal concern regarding environmental sustainability and environmental problems. Including environmental concern as a control variable was important because consumers with stronger environmental values may evaluate sustainability claims more critically and demonstrate greater sensitivity toward greenwashing.

Sustainability Familiarity

Sustainability familiarity refers to participants' prior knowledge, awareness, or familiarity with sustainability-related concepts and environmental communication. The construct was included because familiarity with sustainability issues may influence how consumers interpret environmental claims and assess credibility. Participants responded to items measuring their self-reported familiarity with sustainability concepts and environmental terminology. Consumers with higher sustainability familiarity may engage in more critical evaluation of sustainability communication because they possess stronger awareness regarding environmental marketing practices.

Demographic Variables

The questionnaire also included demographic variables in order to describe the sample and contextualize participant characteristics.

Demographic measures included:

- age
- gender
- education level

These variables were not treated as primary explanatory constructs within the study but were included to provide descriptive information regarding the participant sample.

4.8 Manipulation Checks

Manipulation checks were incorporated into the study in order to evaluate whether participants interpreted the experimental conditions in the intended manner. Because the research design relies

on manipulated communication differences involving benefit framing and claim specificity, it was important to determine whether participants actually perceived those differences during message evaluation. The manipulation of benefit framing aimed to distinguish between sustainability communication emphasizing direct consumer benefits and communication emphasizing broader environmental outcomes. Participants exposed to consumer-benefit framing were expected to perceive the sustainability message as more focused on personal or user-related advantages. Participants exposed to environmental-benefit framing were expected to perceive the communication as more focused on ecological protection and environmental contribution. The manipulation of claim specificity aimed to distinguish between detailed and generalized sustainability communication. Specific claim conditions were expected to appear more concrete, measurable, and informationally detailed. Vague conditions were expected to appear broader, less substantiated, and more ambiguous. Manipulation checks are important because unsuccessful manipulations weaken the interpretability of experimental findings. If participants fail to perceive the intended communication differences, observed outcomes cannot be confidently attributed to the manipulated variables. The manipulation check procedure therefore supports the internal validity of the study by confirming whether the communication conditions functioned as intended.

4.9 Data Preparation

After completion of data collection, the dataset required preparation before statistical analysis could be conducted. The first stage involved screening responses for completeness and usability. Incomplete questionnaires and responses with substantial missing data were excluded from the final dataset. Because the study employed a within-subject experimental design in which every participant evaluated all four conditions, complete response sets were necessary for accurate repeated-measures analysis. The data preparation process also involved reviewing response quality

and consistency. Responses demonstrating clear inattentiveness or non-engagement may reduce data reliability and distort statistical interpretation. Consequently, responses showing patterns of random answering or systematic non-differentiation across all items were reviewed carefully. Experimental conditions were coded according to framing type and specificity level in order to facilitate repeated-measures statistical analysis.

The four conditions were categorized according to:

- consumer-benefit framing with specific claims
- consumer-benefit framing with vague claims
- environmental-benefit framing with specific claims
- environmental-benefit framing with vague claims

Composite variables were created for each primary construct by combining relevant scale items. Construct reliability was evaluated prior to hypothesis testing in order to assess the internal consistency of the measurement scales. Reliability analysis is important because constructs such as credibility, purchase intention, and perceived greenwashing cannot be measured directly through single observable indicators. Instead, multiple items are combined to represent broader latent psychological constructs. The preparation process also included checking for coding consistency, scale alignment, and response formatting. Careful preparation of the dataset was necessary to ensure statistical accuracy and improve the reliability of subsequent analyses.

4.10 Data Analysis Strategy

The present study employs quantitative statistical analysis in order to examine how benefit framing and claim specificity influence consumer responses toward sustainability communication. Because

the study uses a within-subject experimental design in which participants evaluate all four communication conditions, repeated-measures analytical procedures were considered appropriate. The analysis process begins with descriptive statistics.

Descriptive analysis provides an overview of participant characteristics and response distributions across variables. Means, standard deviations, and response patterns were examined for the primary constructs. The second stage involves reliability analysis.

Internal consistency reliability was assessed for the primary measurement constructs in order to evaluate whether the scale items consistently measured the intended psychological variables.

Reliability assessment is particularly important for constructs such as purchase intention, credibility, brand attitude, and perceived greenwashing because these constructs are measured using multiple survey items. The primary hypothesis testing procedure involves repeated-measures analysis. Because each participant evaluated all four sustainability communication conditions, repeated-measures approaches allow direct comparison of participant responses across framing and specificity manipulations.

The analysis strategy examines:

- main effects of benefit framing
- main effects of claim specificity
- interaction effects between framing and specificity

H1 examines whether consumer-benefit framing produces higher purchase intention and more positive brand attitudes than environmental-benefit framing. This hypothesis is tested by comparing participant responses across framing conditions while accounting for repeated

measurements. H2 examines whether specific sustainability claims increase credibility and reduce perceived greenwashing relative to vague claims. This hypothesis is tested through comparison between specific and vague claim conditions on credibility and greenwashing measures. H3 examines whether vague sustainability claims increase perceived greenwashing. This relationship is tested by comparing perceived greenwashing evaluations across specificity conditions. H4 examines whether specific environmental claims are evaluated more positively than vague environmental claims. This hypothesis specifically concerns interaction effects between framing and specificity. The analysis therefore evaluates whether environmental-benefit framing performs differently depending on the level of claim specificity.

In addition to repeated-measures analysis, robustness analysis using repeated-measures ANOVA procedures was planned in order to strengthen interpretive reliability. Environmental concern and sustainability familiarity were incorporated as control variables because these characteristics may influence how participants interpret sustainability communication. The interpretation of statistical significance followed conventional significance thresholds. However, interpretation was not limited exclusively to statistical significance. The direction and consistency of observed effects were also considered important for evaluating the theoretical implications of the findings.

4.11 Ethical Considerations

Participation in the study was entirely voluntary and participants retained the right to discontinue the survey at any stage without penalty or negative consequence. Before beginning the questionnaire, participants were presented with an informed consent form explaining the purpose of the study, the voluntary nature of participation, and the handling of collected data. Participants were informed that responses would remain anonymous and confidential. No personally identifying information was collected beyond basic demographic variables necessary for sample description.

The study involved minimal risk because participants were only asked to evaluate fictional sustainability communication scenarios. All collected responses were stored electronically and used exclusively for academic research purposes. The study also sought to avoid deceptive research practices beyond the necessary use of a fictional brand required for experimental control. Using a fictional company helped minimize prior brand bias while ensuring that participants evaluated the sustainability communication itself rather than pre-existing corporate perceptions. The research process was conducted in accordance with general academic integrity principles including responsible data handling, participant confidentiality, and transparent reporting of findings.

4.12 Methodological Limitations

Although the selected methodology provides several important strengths, the study also contains limitations that should be acknowledged. One limitation concerns the use of self-report measures. Participants evaluated sustainability communication through attitudinal survey responses rather than actual purchasing behavior. Consequently, measured purchase intention may not fully correspond to real marketplace behavior. This issue is especially relevant within sustainability research because consumers often express positive environmental attitudes that do not necessarily translate into actual consumption decisions. A second limitation concerns the use of a fictional brand. Although the fictional company helped reduce prior brand bias and improve experimental control, consumer responses toward fictional brands may differ from responses toward established real-world companies with recognizable reputations. Another limitation concerns the online survey format. Because participants completed the survey independently through personal devices, the researcher had limited control over participant attention, distractions, or survey environment. The within-subject design may also introduce potential order effects or response fatigue because participants evaluate multiple sustainability messages consecutively. Although randomization

procedures were implemented to reduce systematic bias, repeated exposure may still influence later evaluations. The use of convenience sampling further limits generalizability. The participant sample may not fully represent broader consumer populations across different cultural, economic, or demographic contexts.

Finally, sustainability communication represents a highly complex area of consumer evaluation influenced by multiple psychological, cultural, and situational factors. While the present study focuses specifically on framing and claim specificity, additional variables such as political orientation, environmental ideology, product involvement, or prior trust in sustainability communication may also influence consumer responses. Despite these limitations, the selected methodology remains appropriate for examining the causal influence of sustainability communication characteristics within a controlled experimental framework.

4.13 Chapter Summary

This chapter outlined the methodological framework used to examine consumer responses toward sustainability communication. The study employed a quantitative 2×2 within-subject experimental design investigating the effects of benefit framing and claim specificity on purchase intention, brand credibility, brand attitude, and perceived greenwashing. Participants evaluated four sustainability communication conditions associated with a fictional consumer electronics brand presented through an online Qualtrics survey. The chapter explained the research design, experimental manipulations, stimulus development, survey structure, sampling approach, data collection procedure, measurement strategy, manipulation checks, data preparation process, statistical analysis plan, ethical considerations, and methodological limitations. Together, these methodological procedures provide the foundation for the empirical analysis presented in the following chapter.

CHAPTER 5: RESULTS

5.1 Introduction to the Results Chapter

This chapter presents the empirical findings of the study examining consumer responses to different sustainability communication strategies. The analyses were conducted using Jamovi (The Jamovi Project, 2024) statistical software. Given the within-subject experimental structure of the study, repeated-measures ANOVA was employed to evaluate the effects of benefit framing and claim specificity on purchase intention, brand credibility, brand attitude and perceived greenwashing. In addition, reliability analyses and correlation analyses were conducted to assess the internal consistency of the measurement scales and the relationships among the primary study variables. The chapter first presents the demographic characteristics of the sample and the reliability of the measurement scales. This is followed by descriptive statistics and hypothesis testing results. Finally, correlation analyses and additional exploratory findings are discussed before concluding with a summary of the overall results.

5.2 Sample Characteristics

The final sample consisted of 41 participants. The demographic composition of the sample reflected a relatively balanced gender distribution, with 21 male participants (51.2%) and 20 female participants (48.8%). Participants ranged in age from 20 to 71 years old. The mean age of the sample was 34.37 years ($SD = 14.76$), indicating substantial variation in participant age. The sample was also characterized by relatively high educational attainment. More than half of the respondents held a bachelor's degree, while a considerable proportion possessed postgraduate qualifications. This profile is relevant given that sustainability communication and environmental messaging may be interpreted differently by more educated consumers. Participants completed the

questionnaire in either Turkish or English. Most respondents completed the survey in Turkish, accounting for 75.6% of the sample, while 24.4% completed the English-language version. The inclusion of two language options was intended to increase accessibility and participation flexibility.

Table 5.1

Sample Characteristics

Variable	Category	Frequency	Percentage
Gender	Male	21	51.2%
	Female	20	48.8%
Education	High school	2	4.9%
	Associate degree	5	12.2%
	Bachelor's degree	22	53.7%
	Master's degree	12	29.3%
Survey Language	Turkish	31	75.6%
	English	10	24.4%

Age statistics: $M = 34.37$, $SD = 14.76$, Range = 20–71

Overall, the demographic profile suggests a relatively diverse sample in terms of age while remaining comparatively educated. This is particularly relevant in the context of sustainability

communication research, where familiarity with environmental issues may vary across demographic groups.

5.3 Reliability Analysis

Cronbach's alpha coefficients were calculated to assess the internal consistency of the study constructs. Reliability analysis indicated satisfactory internal consistency across all primary measures included in the study. Purchase intention demonstrated the highest reliability among the constructs, followed closely by brand credibility and brand attitude. Perceived greenwashing also demonstrated acceptable reliability despite representing a more interpretive and perception-based construct.

Table 5.2

Reliability Analysis

Construct	Cronbach's α
Purchase Intention	.841
Brand Credibility	.836
Brand Attitude	.820
Perceived Greenwashing	.780

All alpha coefficients exceeded the commonly accepted threshold of .70, indicating acceptable measurement reliability. These findings suggest that the measurement scales used in the study were sufficiently consistent for subsequent statistical analyses and hypothesis testing.

5.4 Descriptive Statistics

Descriptive statistics were calculated for the primary dependent variables across the experimental conditions. Overall, specific sustainability claims consistently produced more positive evaluations than vague claims across purchase intention, brand credibility and brand attitude. In contrast, vague claims generated higher perceptions of greenwashing. This pattern was visible across both consumer-benefit and environmental-benefit framing conditions, suggesting that claim specificity played a more substantial role in shaping consumer responses than the framing orientation itself.

5.5 Hypothesis Testing

5.5.1 Purchase Intention

A repeated-measures ANOVA was conducted to examine the effects of benefit framing and claim specificity on purchase intention. The results revealed a significant main effect of claim specificity, $F(1, 40) = 17.959$, $p < .001$, $\eta^2p = .310$ (see Appendix A, Table A1). Participants reported significantly higher purchase intention when sustainability claims were presented in a specific rather than vague manner. In contrast, the main effect of benefit framing was not statistically significant, $F(1, 40) = 0.862$, $p = .359$, $\eta^2p = .021$. This indicates that emphasizing consumer benefits rather than environmental benefits did not substantially influence purchase intention. The interaction effect between claim specificity and benefit framing was also non-significant, $F(1, 40) = 0.347$, $p = .559$, $\eta^2p = .009$. Therefore, the effectiveness of specific claims did not depend on whether the sustainability message emphasized consumer or environmental benefits.

These findings suggest that consumers were primarily influenced by the clarity and concreteness of sustainability communication rather than by the framing orientation of the message itself.

Accordingly, H1 was not supported. H2 received partial support in relation to purchase intention, while H4 was not supported.

5.5.2 Brand Credibility

The repeated-measures ANOVA examining brand credibility revealed a strong main effect of claim specificity, $F(1, 40) = 16.54$, $p < .001$, $\eta^2p = .293$ (see Appendix A, Table A2). Specific sustainability claims significantly increased perceptions of brand credibility compared to vague claims. The main effect of benefit framing was not statistically significant, $F(1, 40) = 1.04$, $p = .315$, $\eta^2p = .025$. Similarly, the interaction effect between benefit framing and claim specificity was entirely non-significant, $F(1, 40) \approx 0$, $p = 1.000$, $\eta^2p = .000$. These findings indicate that consumers evaluated sustainability communication primarily based on the specificity and perceived substantiation of the claims rather than on whether the message focused on personal or environmental benefits. Vague sustainability communication appeared to weaken brand credibility considerably. The results strongly support H2, which proposed that specific sustainability claims would increase brand credibility. However, H4 was not supported since no interaction effect between framing and specificity emerged.

5.5.3 Brand Attitude

The repeated-measures ANOVA conducted for brand attitude also revealed a significant main effect of claim specificity, $F(1, 40) = 15.565$, $p < .001$, $\eta^2p = .280$ (see Appendix A, Table A3). Participants evaluated the brand more positively when sustainability claims were specific rather than vague. The effect of benefit framing approached significance but remained statistically non-significant, $F(1, 40) = 3.032$, $p = .089$, $\eta^2p = .070$. Although consumer-benefit framing appeared to generate slightly more favorable brand attitudes than environmental-benefit framing, the effect was

not sufficiently strong to support H1. The interaction effect between claim specificity and benefit framing was not significant, $F(1, 40) = 0.621$, $p = .435$, $\eta^2p = .015$. This suggests that the impact of claim specificity on brand attitude remained relatively stable across both framing conditions.

Overall, the findings reinforce the broader pattern observed throughout the analyses. Consumers responded more favorably to clear and concrete sustainability communication, while framing orientation exerted only a limited influence on evaluations.

5.5.4 Perceived Greenwashing

The repeated-measures ANOVA for perceived greenwashing revealed a strong main effect of claim specificity, $F(1, 40) = 15.979$, $p < .001$, $\eta^2p = .285$ (see Appendix A, Table A4). Vague sustainability claims generated significantly higher perceptions of greenwashing than specific claims. No significant main effect of benefit framing was observed, $F(1, 40) = 0.003$, $p = .960$, $\eta^2p = .000$. Likewise, the interaction effect between benefit framing and claim specificity was not statistically significant, $F(1, 40) = 0.214$, $p = .646$, $\eta^2p = .005$. These findings suggest that consumers interpreted vague sustainability communication as substantially less trustworthy and more potentially misleading. The results align closely with the greenwashing literature, which argues that ambiguous environmental claims often trigger skepticism and reduce perceived authenticity. The findings strongly support H3 and further reinforce H2. Specific sustainability claims appeared to reduce perceptions of greenwashing regardless of whether the communication emphasized consumer or environmental benefits.

5.6 Correlation Analysis

Pearson correlation analyses were conducted to examine the relationships among environmental concern, sustainability familiarity and the primary study variables. The analyses revealed strong

positive relationships between purchase intention, brand credibility and brand attitude. Purchase intention was strongly correlated with brand credibility ($r = .835, p < .001$) and brand attitude ($r = .833, p < .001$) (see Appendix B, Table B1). Brand credibility and brand attitude were also strongly positively associated ($r = .829, p < .001$). These findings indicate that perceptions of credibility and positive brand evaluations were closely connected to consumers' willingness to purchase products associated with sustainability communication.

Perceived greenwashing demonstrated significant negative relationships with the positive brand outcomes. Specifically, perceived greenwashing was negatively associated with purchase intention ($r = -.471, p = .002$), brand credibility ($r = -.555, p < .001$) and brand attitude ($r = -.470, p = .002$). This suggests that consumers who perceived sustainability communication as misleading were less likely to trust the brand or express favorable behavioral intentions.

Environmental concern demonstrated a positive relationship with purchase intention ($r = .314, p = .045$), indicating that environmentally concerned participants were somewhat more willing to support sustainability-oriented brands. However, environmental concern did not demonstrate statistically significant relationships with credibility, brand attitude or perceived greenwashing. Interestingly, sustainability familiarity did not demonstrate strong direct relationships with the primary dependent variables. Although participants with greater familiarity with sustainability concepts did not consistently evaluate the messages differently overall, sustainability familiarity may still influence how consumers interpret sustainability communication indirectly. Age demonstrated several noteworthy relationships within the dataset. Older participants reported significantly higher purchase intention ($r = .452, p = .003$), stronger perceptions of brand credibility ($r = .520, p < .001$) and more favorable brand attitudes ($r = .397, p = .010$). Age also demonstrated a marginal negative relationship with perceived greenwashing ($r = -.286, p = .070$), suggesting that

older consumers may have interpreted the sustainability communication somewhat more positively overall.

Table 5.3

Correlation Matrix

Variable	1	2	3	4	5	6
1. Environmental Concern	—					
2. Sustainability Familiarity	.578***	—				
3. Purchase Intention	.314*	-.033	—			
4. Brand Credibility	.262	.058	.835***	—		
5. Brand Attitude	.167	.038	.833***	.829***	—	
6. Perceived Greenwashing	-.190	.036	-.471**	-.555***	-.470**	—

Note. $p < .05$, $p < .01$, $p < .001$.

5.7 Additional Exploratory Findings

Additional exploratory analyses examined whether survey language influenced participant evaluations. Independent-samples comparisons revealed no statistically significant differences between participants who completed the survey in Turkish and those who completed it in English across the primary dependent variables. This suggests that the language version of the questionnaire did not substantially influence the overall findings of the study. Consequently, the observed effects appear relatively stable across both language conditions. The exploratory findings involving age

should also be interpreted cautiously due to the relatively small sample size. Nevertheless, the positive relationships between age and several dependent variables suggest that older participants may have responded somewhat more favorably to sustainability communication overall.

5.8 Summary of Hypothesis Testing

Table 5.4

Summary of Hypothesis Testing

Hypothesis	Result
H1: Consumer-benefit framing leads to higher purchase intention and more positive brand attitudes than environmental-benefit framing	Not supported
H2: Specific sustainability claims increase brand credibility and reduce perceived greenwashing compared to vague claims	Supported
H3: Vague sustainability claims increase perceived greenwashing	Supported
H4: Specific environmental claims are evaluated more positively than vague environmental claims	Not supported

Overall, the findings consistently demonstrate that claim specificity played a substantially more important role than benefit framing in shaping consumer responses to sustainability communication. Specific sustainability claims increased purchase intention, strengthened brand credibility, improved brand attitudes and reduced perceived greenwashing across the experimental conditions.

In contrast, the distinction between consumer-benefit and environmental-benefit framing produced relatively weak effects throughout the analyses. The findings therefore suggest that consumers may place greater importance on the perceived clarity and authenticity of sustainability communication than on the particular framing orientation employed by firms. The following chapter discusses these findings in relation to the existing literature and the broader theoretical implications of sustainability communication and consumer perception.

CHAPTER 6: DISCUSSION

6.1 Introduction

This study examined how sustainability communication strategies influence consumer perceptions within the context of green marketing. More specifically, the research investigated whether the framing and specificity of sustainability claims shape consumer evaluations of brands, purchase intention, perceived greenwashing and brand credibility. The experiment was designed to address an increasingly relevant problem within sustainability communication: although companies invest heavily in environmental messaging, consumers are simultaneously becoming more skeptical of corporate sustainability claims and more attentive to signs of greenwashing (Delmas & Burbano, 2011; Lyon & Montgomery, 2015; Schmuck, Matthes, & Naderer, 2018).

The findings reveal a clear and consistent pattern. Across nearly all major dependent variables, claim specificity emerged as the dominant explanatory factor. Specific sustainability claims increased purchase intention, improved brand attitudes, enhanced perceived brand credibility and reduced perceptions of greenwashing. By contrast, framing effects were comparatively weak. Consumer-benefit framing did not significantly outperform environmental-benefit framing, while interaction effects between framing and specificity were also non-significant. In addition,

perceived greenwashing demonstrated strong negative relationships with purchase intention, brand attitude and brand credibility, reinforcing the central role of trust and authenticity within sustainability communication (Chen & Chang, 2013; Nyilasy, Gangadharbatla, & Paladino, 2014).

Taken together, the findings suggest that contemporary consumers may be less influenced by the orientation of sustainability appeals and more concerned with whether sustainability claims appear credible, concrete and verifiable. In an environment characterized by growing skepticism toward environmental marketing, consumers appear to reward communication that reduces ambiguity and signals authenticity (Pomeroy & Johnson, 2009; Schmuck et al., 2018). The following sections interpret these findings in relation to the existing literature on green marketing, greenwashing, consumer skepticism, trust formation and advertising psychology.

6.2 Discussion of H1

H1 proposed that consumer-benefit framing would generate higher purchase intention and more positive brand attitudes than environmental-benefit framing. However, the results did not support this hypothesis. Although some minor directional differences emerged, framing orientation alone did not significantly influence the principal outcome variables. This finding is particularly interesting because prior literature has often suggested that egoistic or self-benefit appeals can outperform altruistic environmental appeals in sustainability communication. Previous studies have argued that consumers are frequently motivated by immediate personal benefits such as health, convenience or financial savings rather than broader environmental outcomes. Within green marketing literature, consumer-oriented framing has often been interpreted as psychologically closer to individual decision-making processes, particularly when sustainable consumption requires effort, financial sacrifice or behavioral change (Lim et al., 2013; Schmuck et al., 2018).

At the same time, however, the current findings align with a growing body of research suggesting that contemporary sustainability communication operates within an environment increasingly shaped by consumer skepticism. Forehand and Grier (2003) argue that consumer reactions toward socially responsible communication are heavily influenced by perceived corporate motives rather than simply the content of the message itself. When consumers suspect strategic persuasion attempts or image management motives, the effectiveness of sustainability appeals may weaken regardless of whether the message emphasizes personal or environmental benefits (Forehand & Grier, 2003; Pomeroy & Johnson, 2009).

The absence of strong framing effects may therefore reflect a broader shift in how consumers process sustainability communication. Rather than responding primarily to appeal orientation, consumers may first evaluate whether the message itself appears authentic and trustworthy. In highly skepticism-driven contexts such as sustainability advertising, the persuasive power of framing may become secondary to the perceived legitimacy of the claim (Lyon & Montgomery, 2015; Nyilasy et al., 2014). This interpretation is consistent with research on greenwashing and deceptive environmental communication. Lyon and Montgomery (2015) note that consumers have become increasingly skeptical toward environmental claims due to the proliferation of misleading sustainability communication. As environmental messaging becomes more common across industries, consumers may no longer interpret environmental framing as inherently altruistic or morally credible. Instead, they may approach both consumer-oriented and environment-oriented appeals with similar levels of caution (Delmas & Burbano, 2011; Lyon & Montgomery, 2015).

The findings also resonate with attribution theory perspectives discussed by Nyilasy et al. (2014). Their work suggests that consumers evaluate sustainability communication by interpreting underlying corporate motives, particularly when environmental claims appear strategically

advantageous for the company. From this perspective, the framing of the message may matter less than whether the communication itself appears genuine (Forehand & Grier, 2003; Nyilasy et al., 2014).

Another possible explanation concerns the normalization of sustainability discourse within advertising environments. Environmental messaging is no longer limited to niche green brands. Sustainability claims now appear across mainstream industries, including sectors traditionally associated with environmental harm. As a result, consumers may have developed stronger persuasion knowledge regarding sustainability communication practices. According to skepticism literature, repeated exposure to persuasive environmental claims can reduce sensitivity to appeal orientation because consumers become more focused on identifying manipulation attempts (Friestad & Wright, 1994; Pomering & Johnson, 2009).

The weak framing effects also complicate assumptions frequently found in traditional advertising research. Much of the earlier framing literature implicitly assumes that consumers process sustainability claims primarily through motivational alignment, meaning that messages become more persuasive when they connect directly to personal self-interest. However, the current findings suggest that such assumptions may be less applicable in contemporary sustainability contexts characterized by high levels of marketplace skepticism and growing public awareness of greenwashing (Lyon & Montgomery, 2015; Schmuck et al., 2018). Importantly, the absence of significant framing effects should not be interpreted as evidence that framing is irrelevant. Instead, the findings suggest that framing alone may be insufficient to shape consumer evaluations when credibility concerns dominate message processing. In other words, consumers may still care about the content of sustainability appeals, but only after the communication has first passed an authenticity threshold (Forehand & Grier, 2003; Nyilasy et al., 2014).

This interpretation is theoretically important because it suggests that sustainability communication may increasingly operate according to credibility-centered rather than persuasion-centered mechanisms. In such contexts, the perceived honesty, transparency and substantiation of claims may exert greater influence than whether sustainability benefits are framed as personal or collective (Chen & Chang, 2013; Pomeroy & Johnson, 2009).

6.3 Discussion of H2

H2 proposed that specific sustainability claims would increase brand credibility and reduce perceived greenwashing compared to vague sustainability claims. The findings strongly supported this hypothesis and demonstrated that claim specificity was one of the most influential variables across the entire study. Specific sustainability claims significantly increased purchase intention, enhanced brand credibility, improved brand attitudes and reduced perceptions of greenwashing. These findings suggest that specificity functions as a critical trust-building mechanism within sustainability communication. One of the clearest explanations for these findings emerges from signaling theory. Sustainability communication frequently involves information asymmetry because consumers cannot directly verify many environmental claims. In such situations, consumers rely on signals to evaluate whether firms are genuinely committed to sustainability practices. Specific claims provide stronger informational signals because they communicate measurable, concrete and verifiable information. Vague claims, by contrast, provide weaker signals and therefore generate greater uncertainty (Seele & Gatti, 2017; Lyon & Montgomery, 2015).

The findings strongly align with the literature on greenwashing and deceptive environmental communication. Lyon and Montgomery (2015) define greenwashing as communication that misleads consumers into forming overly positive beliefs about environmental performance. Their review highlights how vague environmental language contributes to consumer skepticism because

ambiguous claims prevent consumers from accurately evaluating corporate sustainability efforts (Lyon & Montgomery, 2015).

The present findings suggest that specificity reduces this ambiguity. When sustainability communication includes concrete evidence, numerical information or explicit descriptions of environmental practices, consumers appear more willing to perceive the communication as authentic. In this sense, specificity may function as a mechanism of ambiguity reduction. This interpretation also connects closely to trust formation literature. Chen and Chang (2013) emphasize that green trust depends heavily on consumers' perceptions of credibility, clarity and reliability within sustainability communication. Vague environmental claims increase consumer confusion and perceived risk, which ultimately undermine trust. Specific claims, however, appear to reduce both uncertainty and suspicion by providing consumers with more diagnostic information (Chen & Chang, 2013).

Information diagnosticity offers another useful explanation for the findings. Consumers are more likely to rely on information that appears useful, concrete and decision-relevant. Specific sustainability claims likely increase diagnosticity because they allow consumers to evaluate the plausibility and legitimacy of environmental performance more effectively. Vague claims such as "eco-friendly" or "sustainable" provide little meaningful information, whereas precise descriptions communicate greater transparency (Carlson, Grove, & Kangun, 1993; Pomeroy & Johnson, 2009).

The results also support persuasion knowledge theory and skepticism research. Modern consumers are increasingly aware that sustainability communication may serve strategic branding objectives rather than purely environmental goals. As Forehand and Grier (2003) argue, skepticism intensifies when consumers perceive discrepancies between corporate motives and communicated intentions. Specificity may therefore reduce skepticism because detailed claims appear more difficult to

fabricate and more costly to communicate dishonestly (Forehand & Grier, 2003; Friestad & Wright, 1994).

The strong positive effect of specificity on brand credibility is particularly important. Brand credibility appears to function as a central mechanism linking sustainability communication to broader consumer outcomes. When sustainability claims appear precise and substantiated, consumers may infer that the company itself is more competent, transparent and trustworthy (Chen & Chang, 2013; Nyilasy et al., 2014). This interpretation aligns with Nyilasy et al.'s (2014) attribution-based explanation of perceived greenwashing. Their work suggests that consumers interpret environmental communication not only at the message level but also at the motive level. Specific claims may therefore reduce negative attributions because they signal genuine environmental commitment rather than symbolic impression management (Nyilasy et al., 2014). The findings also contribute to authenticity research within sustainability communication. Authenticity is often perceived through consistency, transparency and evidence-based communication. Specific sustainability claims appear to strengthen all three dimensions. By contrast, vague claims may trigger suspicion precisely because they resemble symbolic environmentalism rather than substantive environmental commitment (Delmas & Burbano, 2011; Seele & Gatti, 2017).

Another important aspect concerns the relationship between specificity and purchase intention. The findings demonstrate that consumers are not only cognitively reassured by specific claims but also behaviorally influenced by them. This suggests that credibility and trust are not abstract evaluative dimensions but directly connected to market-related outcomes (Chen & Chang, 2013; Nyilasy et al., 2014). The results are particularly meaningful within contemporary sustainability markets characterized by information overload and increasing consumer confusion. Chen and Chang (2013)

argue that greenwashing contributes to green consumer confusion because consumers struggle to interpret ambiguous environmental information. Specific claims appear to counteract this confusion by improving informational clarity. The findings further support research by Schmuck et al. (2018), who found that misleading environmental claims can negatively affect brand evaluations and trigger perceptions of greenwashing. Their work highlights how consumers increasingly respond negatively to communication that appears vague, false or unverifiable (Schmuck et al., 2018). Collectively, the results suggest that specificity has become a central condition for effective sustainability communication. Rather than relying on broad environmental rhetoric, companies appear more likely to generate positive consumer reactions when sustainability communication includes measurable, transparent and substantiated information (Lyon & Montgomery, 2015; Pomeroy & Johnson, 2009). The broader theoretical implication is that modern sustainability communication may increasingly depend on evidence-based persuasion rather than symbolic persuasion. Consumers appear willing to reward sustainability communication, but only when environmental claims appear sufficiently concrete to overcome prevailing marketplace skepticism (Chen & Chang, 2013; Delmas & Burbano, 2011).

6.4 Discussion of H3

H3 proposed that vague sustainability claims would increase perceived greenwashing. The findings strongly supported this hypothesis. Vague sustainability communication generated significantly higher perceptions of greenwashing, while also contributing to less favorable brand evaluations and lower purchase intention. These results reinforce the argument that ambiguity plays a central role in consumer skepticism toward environmental marketing. One of the primary explanations for this finding concerns the relationship between ambiguity and distrust. Vague sustainability claims provide limited informational value and often lack measurable or verifiable content. As a result,

consumers may perceive such communication as intentionally evasive or strategically manipulative (Carlson et al., 1993; Lyon & Montgomery, 2015).

This interpretation closely aligns with greenwashing literature. Lyon and Montgomery (2015) argue that greenwashing frequently operates through vague or symbolic communication that encourages consumers to form overly positive impressions despite limited substantive evidence. Vague claims allow firms to imply environmental responsibility without committing to specific standards or outcomes (Delmas & Burbano, 2011; Lyon & Montgomery, 2015). The findings also support persuasion knowledge theory. Contemporary consumers appear increasingly capable of recognizing when environmental communication resembles impression management rather than genuine sustainability commitment. As consumers develop stronger awareness of corporate persuasion tactics, vague claims may become particularly vulnerable to skepticism because they resemble strategic branding language rather than authentic environmental disclosure (Forehand & Grier, 2003; Friestad & Wright, 1994). Schmuck et al. (2018) found that misleading environmental claims trigger perceptions of greenwashing and negatively influence both ad evaluations and brand attitudes. Their findings suggest that consumers interpret deceptive sustainability communication as a sign of low credibility. The current study extends this insight by demonstrating that vagueness itself may function as a direct trigger of greenwashing perceptions (Schmuck et al., 2018).

Another important explanation concerns symbolic environmentalism. Consumers increasingly distinguish between substantive sustainability actions and symbolic sustainability communication. Vague claims may activate suspicion because they appear more symbolic than operational. In other words, consumers may perceive broad environmental language as an attempt to project environmental responsibility without demonstrating concrete environmental performance (Delmas & Burbano, 2011; Seele & Gatti, 2017). This interpretation is also consistent with attribution

theory. When sustainability communication lacks specificity, consumers may attribute environmental messaging to strategic motives such as reputation management or image enhancement rather than genuine environmental concern. Nyilasy et al. (2014) argue that perceived greenwashing emerges particularly strongly when advertising claims appear inconsistent with credible environmental performance. Vague claims may intensify such inconsistencies because they provide insufficient evidence to support the implied sustainability image (Nyilasy et al., 2014). The relationship between vague claims and reduced trust is also theoretically significant. Green trust literature suggests that trust formation depends heavily on clarity and informational transparency. Chen and Chang (2013) emphasize that greenwashing increases both consumer confusion and perceived risk, ultimately damaging trust relationships between consumers and brands. The present findings strongly support this perspective. Importantly, the results suggest that consumers increasingly expect evidence-based sustainability communication. General environmental statements may no longer be sufficient to establish legitimacy or credibility. Instead, consumers appear to demand concrete explanations regarding how products, practices or supply chains contribute to environmental sustainability (Pomering & Johnson, 2009; Schmuck et al., 2018).

The findings also reflect broader marketplace developments. Sustainability communication has become highly visible across industries, leading to greater public familiarity with environmental advertising practices. As a result, vague sustainability rhetoric may no longer appear persuasive or innovative. Instead, it may activate suspicion precisely because consumers have encountered similar language repeatedly (Delmas & Burbano, 2011; Lyon & Montgomery, 2015). Another relevant consideration concerns the role of perceived manipulation. Vague claims may create the impression that companies are intentionally withholding information or exaggerating

environmental performance. This perceived strategic ambiguity likely contributes to stronger perceptions of greenwashing (Forehand & Grier, 2003; Schmuck et al., 2018). The findings therefore reinforce the argument that vague sustainability communication carries substantial reputational risks. Rather than strengthening corporate environmental images, ambiguous environmental language may undermine credibility and weaken consumer trust (Chen & Chang, 2013; Nyilasy et al., 2014).

6.5 Discussion of H4

H4 proposed that specific environmental claims would be evaluated more positively than vague environmental claims and that framing would interact with specificity. Although specificity itself strongly influenced consumer evaluations, the interaction effect between framing and specificity was not significant. This finding is theoretically important because it suggests that consumers evaluated claim specificity largely independently of framing orientation. Whether sustainability benefits were framed as personal or environmental appeared less influential than whether the claims themselves were concrete and credible. One interpretation is that specificity functions as a dominant evaluative cue within sustainability communication. When consumers encounter environmental claims, they may first evaluate whether the information appears trustworthy before processing the framing orientation of the message (Chen & Chang, 2013; Lyon & Montgomery, 2015). This interpretation aligns with the broader findings of the study. Across dependent variables, specificity consistently demonstrated stronger effects than framing. Such a pattern suggests that consumers may prioritize authenticity signals over motivational framing strategies (Pomeroy & Johnson, 2009; Schmuck et al., 2018).

The non-significant interaction effect also supports the idea that sustainability communication increasingly operates within a skepticism-driven marketplace. Under conditions of heightened

skepticism, consumers may become less responsive to traditional persuasive framing techniques because they focus primarily on identifying credible information (Forehand & Grier, 2003; Nyilasy et al., 2014).

The findings challenge assumptions within some areas of framing literature that message orientation necessarily determines persuasive effectiveness. In conventional advertising contexts, self-benefit framing often produces stronger behavioral responses because it aligns directly with personal motivations. However, sustainability communication may represent a different psychological environment, especially when consumers suspect corporate environmental claims to be strategically motivated (Forehand & Grier, 2003; Lim et al., 2013). Environmental advertising often carries additional credibility challenges because consumers recognize that firms may strategically exploit sustainability themes for reputational gain. As a result, consumers may become more sensitive to informational quality than to appeal orientation (Delmas & Burbano, 2011; Lyon & Montgomery, 2015). The results therefore suggest that claim authenticity may operate as a prerequisite condition for framing effectiveness. If consumers perceive sustainability communication as vague, manipulative or insufficiently substantiated, the specific framing orientation may become largely irrelevant (Schmuck et al., 2018; Seele & Gatti, 2017).

Another possible explanation concerns the increasing convergence between personal and environmental motivations within sustainability discourse. Contemporary consumers may no longer perceive environmental and consumer benefits as entirely distinct categories. Environmental sustainability can simultaneously imply personal health benefits, ethical satisfaction or long-term societal welfare. Consequently, the distinction between altruistic and egoistic framing may be psychologically weaker than earlier literature assumed (Lim et al., 2013; Schmuck et al., 2018).

The findings also reinforce recent arguments suggesting that sustainability communication effectiveness depends less on rhetorical persuasion and more on trust construction. In this context, specificity may serve as a more powerful trust signal than framing orientation (Chen & Chang, 2013; Pomering & Johnson, 2009). Importantly, the absence of a significant interaction effect should not be interpreted as evidence that framing lacks theoretical relevance. Instead, the findings indicate that framing effects may become conditional upon other variables such as perceived authenticity, consumer skepticism or claim substantiation (Forehand & Grier, 2003; Nyilasy et al., 2014). The study therefore contributes to sustainability communication literature by suggesting that specificity may operate as the primary driver of consumer evaluations, while framing effects remain secondary and context-dependent.

6.6 Discussion of Correlation Findings

The correlation analyses produced several insights regarding the broader psychological structure underlying consumer responses to sustainability communication. First, strong positive relationships emerged between brand credibility, purchase intention and brand attitude. These findings suggest that credibility functions as a central mechanism connecting sustainability communication to behavioral outcomes. This result aligns closely with green trust literature. Chen and Chang (2013) emphasize that trust represents a foundational condition for successful green marketing because consumers cannot directly verify many environmental claims. When consumers perceive sustainability communication as credible, they appear more willing to form favorable brand evaluations and stronger purchase intentions (Chen & Chang, 2013). The findings also reinforce attribution theory perspectives. Consumers appear to infer broader corporate characteristics from sustainability communication quality. Credible sustainability claims may

therefore signal honesty, competence and ethical responsibility at the company level, which positively influences overall brand perceptions (Forehand & Grier, 2003; Nyilasy et al., 2014).

A strong negative relationship was also found between perceived greenwashing and positive consumer outcomes. Higher perceptions of greenwashing were associated with lower purchase intention, reduced brand credibility and less favorable brand attitudes. These findings strongly support prior greenwashing literature. Perceived deception has consistently been linked to negative consumer responses because greenwashing undermines trust and activates skepticism. Nyilasy et al. (2014) argue that when consumers perceive inconsistencies between sustainability communication and genuine environmental commitment, negative attitudinal reactions intensify. Similarly, Chen and Chang (2013) found that greenwashing negatively affects green trust both directly and indirectly through increased consumer confusion and perceived risk. The current findings reinforce this mechanism by demonstrating how perceived greenwashing damages multiple dimensions of consumer evaluation simultaneously.

Environmental concern demonstrated a positive relationship with purchase intention. Consumers with stronger environmental concern appeared more willing to support sustainability-oriented products and communication. This finding is consistent with earlier green marketing research suggesting that environmentally concerned consumers are more receptive to sustainable consumption and more motivated to align purchasing behavior with environmental values (Schmuck et al., 2018). At the same time, however, environmental concern did not eliminate skepticism effects. This is theoretically significant because it suggests that even environmentally engaged consumers remain sensitive to perceived authenticity and claim quality. Schmuck et al. (2018) similarly emphasize that environmental concern and environmental knowledge may shape

consumer responses to green advertising, but do not make consumers immune to misleading claims.

Sustainability familiarity demonstrated relatively weak direct relationships with the principal dependent variables. One possible explanation is that familiarity alone may not guarantee trust or positive evaluation. Consumers can be familiar with sustainability concepts while simultaneously remaining skeptical toward corporate sustainability communication (Chen & Chang, 2013; Pomeroy & Johnson, 2009). Another explanation concerns the distinction between familiarity and expertise. Familiarity may increase exposure to sustainability terminology without necessarily increasing consumers' ability to evaluate environmental claims accurately. In some cases, greater familiarity may even heighten skepticism because consumers become more aware of greenwashing practices (Schmuck et al., 2018).

The findings regarding age were also noteworthy. Older participants generally evaluated sustainability communication more positively than younger participants. This finding should be treated cautiously because age was not a central theoretical variable in the study, but it may suggest demographic variation in trust, skepticism or interpretation of sustainability claims. Several explanations may account for this result. Older consumers may process sustainability communication differently due to generational differences in trust, advertising skepticism or environmental values. Younger consumers are often more exposed to digital sustainability discourse and social media criticism regarding corporate greenwashing, which may increase skepticism toward environmental claims. This interpretation is consistent with broader skepticism literature emphasizing the role of marketplace learning and persuasion knowledge in shaping consumer responses to marketing claims (Forehand & Grier, 2003; Friestad & Wright, 1994).

Older consumers may also place greater emphasis on institutional credibility and formal communication structures, whereas younger consumers may evaluate sustainability communication more critically through authenticity-oriented frameworks. However, because the present study was not designed to test age-based differences directly, this finding should be interpreted as exploratory. Overall, the correlation findings reinforce the broader conclusion that credibility and perceived authenticity play central roles within sustainability communication.

6.7 Theoretical Contributions

This study contributes to several interconnected areas of literature including green marketing, sustainability communication, greenwashing research, framing theory and credibility research (Chen & Chang, 2013; Lyon & Montgomery, 2015; Pomeroy & Johnson, 2009). The first and most important theoretical contribution concerns the dominant role of claim specificity. While prior research has acknowledged the importance of credible environmental communication, the current findings demonstrate that specificity consistently influences multiple consumer outcomes simultaneously. Specific sustainability claims improved purchase intention, enhanced credibility, strengthened brand attitudes and reduced perceptions of greenwashing. The findings therefore extend existing green marketing literature by demonstrating that specificity functions not merely as a communication characteristic but as a central mechanism of trust formation (Chen & Chang, 2013; Pomeroy & Johnson, 2009).

Second, the study contributes to greenwashing literature by clarifying how consumers interpret vague sustainability communication. Rather than simply producing weaker persuasive outcomes, vague claims actively increased perceptions of greenwashing. This distinction is theoretically important because it suggests that ambiguity does not merely reduce communication effectiveness.

Instead, ambiguity may itself operate as a reputational liability by triggering consumer suspicion and negative attributions (Lyon & Montgomery, 2015; Schmuck et al., 2018).

Third, the study contributes to sustainability communication literature by demonstrating the comparatively weak influence of framing orientation relative to claim specificity. Previous framing research has often emphasized the persuasive superiority of either egoistic or altruistic sustainability appeals. However, the present findings suggest that in contemporary skepticism-driven environments, framing may become secondary to authenticity evaluation (Forehand & Grier, 2003; Nyilasy et al., 2014). This represents an important conceptual shift. Sustainability communication effectiveness may increasingly depend less on motivational appeal design and more on whether communication appears transparent, substantiated and verifiable (Chen & Chang, 2013; Lyon & Montgomery, 2015).

Fourth, the study contributes to credibility and trust literature by highlighting the strong interrelationships between brand credibility, purchase intention and brand attitudes. The findings reinforce the argument that credibility operates as a foundational mechanism connecting sustainability communication to broader behavioral outcomes (Chen & Chang, 2013).

Fifth, the study contributes methodologically and conceptually by integrating framing and specificity within a single experimental framework. Previous sustainability communication studies have often examined framing, trust, greenwashing and credibility separately rather than simultaneously, which has limited understanding of how these mechanisms interact within consumer evaluations (Forehand & Grier, 2003; Nyilasy et al., 2014; Schmuck et al., 2018). Previous sustainability communication research has often examined these variables independently. By analyzing them simultaneously, the study demonstrates that specificity may exert stronger and more consistent effects than framing orientation.

Finally, the findings contribute to consumer skepticism literature by reinforcing the idea that contemporary consumers actively evaluate sustainability communication through authenticity-oriented frameworks. Consumers no longer appear to respond passively to environmental rhetoric. Instead, they actively assess whether sustainability communication appears concrete, transparent and trustworthy (Forehand & Grier, 2003; Pomeroy & Johnson, 2009). Collectively, these contributions suggest that sustainability communication research should increasingly focus on credibility construction, ambiguity reduction and trust signaling rather than relying primarily on traditional persuasive framing approaches.

6.8 Practical Implications

The findings generate several important practical implications for marketers, sustainability managers, CSR communication teams and brand strategists.

First, companies should avoid vague sustainability communication whenever possible. Broad environmental claims such as “eco-friendly,” “green” or “sustainable” without supporting evidence appear likely to increase perceptions of greenwashing and weaken consumer trust. This recommendation is consistent with prior work showing that ambiguous or misleading environmental claims can increase confusion, perceived risk and skepticism (Chen & Chang, 2013; Delmas & Burbano, 2011; Lyon & Montgomery, 2015). Instead, firms should prioritize specific and substantiated sustainability claims. Providing measurable information, concrete environmental data or explicit descriptions of sustainability initiatives appears substantially more effective for improving credibility and strengthening consumer responses (Pomeroy & Johnson, 2009; Schmuck et al., 2018).

Second, the findings suggest that credibility and trust should become central strategic priorities within sustainability communication. Consumers appear increasingly skeptical toward environmental marketing and therefore expect transparency and evidence-based communication (Lyon & Montgomery, 2015; Nyilasy et al., 2014). This means that sustainability communication should be closely aligned with verifiable operational practices. Firms should avoid exaggerating environmental achievements or relying excessively on symbolic sustainability language. Research on greenwashing suggests that symbolic communication without substantive environmental performance can damage trust and produce negative consumer reactions (Delmas & Burbano, 2011; Nyilasy et al., 2014; Seele & Gatti, 2017).

Third, companies should recognize that framing alone may not compensate for weak claim quality. Simply emphasizing consumer benefits or environmental benefits is unlikely to produce strong positive outcomes if the communication itself lacks specificity or credibility.

Fourth, marketers should understand that perceived greenwashing can generate substantial reputational damage. The findings demonstrate strong negative relationships between perceived greenwashing and purchase intention, brand credibility and brand attitude. This pattern is consistent with prior literature showing that perceived greenwashing undermines consumer trust and harms brand-related outcomes (Chen & Chang, 2013; Schmuck et al., 2018). Reducing perceptions of greenwashing therefore requires more than attractive sustainability messaging. It requires consistency between communication and actual environmental performance (Nyilasy et al., 2014).

Fifth, companies should invest in communication transparency. Consumers increasingly appear to reward brands that communicate sustainability information clearly, concretely and honestly (Pomeroy & Johnson, 2009). This may involve using numerical sustainability indicators, referencing independent certifications, explaining environmental processes in detail, providing

accessible evidence regarding sustainability practices and avoiding ambiguous or inflated environmental language.

Finally, the findings suggest that authenticity has become a competitive advantage within sustainability communication. Firms that communicate sustainability efforts transparently and specifically may be better positioned to build long-term consumer trust, particularly in marketplace environments characterized by growing skepticism toward environmental advertising (Chen & Chang, 2013; Lyon & Montgomery, 2015; Seele & Gatti, 2017). Firms that communicate sustainability efforts transparently and specifically may be better positioned to build long-term consumer trust.

6.9 Limitations of the Study

Several limitations should be acknowledged when interpreting the findings of this study.

First, the sample size was relatively limited. Although the study generated statistically meaningful findings, a larger sample would improve statistical power and increase confidence regarding the stability of the observed effects. Second, the study relied on convenience sampling. As a result, the findings cannot be generalized fully to broader consumer populations. The sample may not adequately represent consumers from different socioeconomic, cultural or educational backgrounds. Third, the study employed self-report measures. Although self-report approaches are common within consumer research, they remain vulnerable to response biases including social desirability bias and consistency bias. Fourth, the experimental design used fictional brand stimuli. This approach improved internal validity by controlling for prior brand associations, but it may also reduce ecological validity. Consumers often evaluate sustainability communication differently when they possess existing knowledge or emotional attachment toward real brands.

Fifth, the study was conducted within an artificial experimental environment. Real-world sustainability communication occurs within more complex informational contexts involving competing advertisements, media coverage, prior experiences and social influences. Sixth, within-subject exposure effects may have influenced participant responses. Exposure to multiple sustainability messages during the experiment could have increased awareness of the study purpose or heightened sensitivity toward claim differences. Seventh, the study used a cross-sectional design. As a result, it cannot fully capture how consumer perceptions evolve over time. Sustainability trust and skepticism may develop dynamically through repeated exposure to corporate communication. Eighth, cultural and language considerations should also be acknowledged. Consumer interpretations of sustainability claims may vary across linguistic and cultural contexts. Sustainability communication practices and skepticism levels are not necessarily identical across countries. Finally, the study focused primarily on attitudinal and intentional outcomes rather than actual purchasing behavior. Although purchase intention represents an important predictor of behavior, intentions do not always translate into real consumption decisions. Despite these limitations, the study still provides important theoretical and practical insights into the role of specificity, credibility and perceived greenwashing within sustainability communication.

6.10 Recommendations for Future Research

Future research could build upon the findings of this study in several important ways. First, future studies should employ larger and more diverse samples in order to improve generalizability. Cross-national comparisons would be particularly valuable because sustainability perceptions and skepticism levels may differ substantially across cultural contexts. Second, future research could investigate real brands rather than fictional brands. Using existing brands would allow researchers to examine how prior reputation, brand familiarity and existing trust relationships influence

responses to sustainability communication. Third, longitudinal research designs would provide deeper insight into how sustainability trust and skepticism evolve over time. Consumers' perceptions of authenticity may develop gradually through repeated exposure to sustainability communication. Fourth, future studies could examine sustainability communication across different industries. Consumer expectations regarding sustainability may vary substantially between sectors such as fashion, food, cosmetics, automotive products or energy. Fifth, future research should incorporate actual behavioral measures rather than relying exclusively on purchase intentions. Experimental purchasing tasks or field-based consumer behavior data could provide stronger evidence regarding the real marketplace consequences of sustainability communication. Sixth, future studies could investigate additional moderating variables including skepticism traits, environmental ideology, political orientation, advertising literacy or trust propensity. Seventh, emotional responses toward sustainability communication deserve greater attention. Although the current study focused primarily on credibility and skepticism mechanisms, emotional reactions such as guilt, pride, moral satisfaction or anxiety may also influence sustainable consumption behavior. This is particularly relevant because previous work on green advertising has shown that affective responses and environmental involvement may shape evaluations of green messages (Schmuck et al., 2018). Eighth, future research should examine AI-generated sustainability communication. As artificial intelligence becomes increasingly integrated into marketing practices, important questions emerge regarding whether consumers perceive AI-generated sustainability claims as more or less credible. Ninth, social media sustainability communication represents another important direction for future research. Sustainability messaging on social media platforms often operates differently from traditional advertising due to influencer involvement, user-generated content and rapid public feedback.

Finally, future studies could investigate influencer sustainability communication specifically. Consumers may evaluate sustainability claims differently when they originate from influencers rather than corporations directly. Collectively, these future directions would help expand understanding of how consumers interpret sustainability communication within increasingly complex digital and marketplace environments.

6.11 Conclusion

This study examined how framing and claim specificity influence consumer perceptions within sustainability communication. The findings demonstrate that claim specificity plays a central role in shaping purchase intention, brand credibility, brand attitude and perceptions of greenwashing. Specific sustainability claims consistently generated more favorable consumer responses, while vague sustainability communication increased skepticism and perceptions of greenwashing. By contrast, framing orientation demonstrated comparatively weak effects, suggesting that contemporary consumers may prioritize authenticity and substantiation over persuasive appeal orientation. The findings reinforce the importance of credibility and trust within green marketing. Sustainability communication appears increasingly effective when consumers perceive environmental claims as concrete, transparent and verifiable. At the same time, the study highlights the reputational risks associated with vague sustainability messaging. Ambiguous environmental communication not only weakens persuasion but may actively trigger consumer suspicion and reduce trust. More broadly, the findings suggest that sustainability communication is evolving within a marketplace increasingly shaped by consumer skepticism, persuasion knowledge and demands for authenticity (Forehand & Grier, 2003; Friestad & Wright, 1994; Lyon & Montgomery, 2015). Consumers appear willing to support environmentally responsible brands, but they also expect evidence-based communication that demonstrates genuine sustainability commitment. For

both researchers and practitioners, the study therefore emphasizes a central conclusion: in contemporary green marketing, credibility is not a secondary communication outcome but a foundational condition for effective sustainability communication itself.

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Appendix A

Table A1

Repeated Measures ANOVA Output for Purchase Intention

Within Subjects Effects

	Sum of Squares	df	Mean Square	F	p	η^2_p
Claim Specificity	21.226	1	21.226	17.959	<.001	0.310
Residual	47.274	40	1.182			
Benefit Framing	0.390	1	0.390	0.862	.359	0.021
Residual	18.110	40	0.453			
Claim Specificity * Benefit Framing	0.152	1	0.152	0.347	.559	0.009
Residual	17.598	40	0.440			

Note. Type 3 Sums of Squares

Between Subjects Effects

	Sum of Squares	df	Mean Square	F	p	η^2_p
Residual	116	40	2.91			

Note. Type 3 Sums of Squares

Note. The table presents within-subject effects for benefit framing, claim specificity and their interaction on purchase intention.

Table A2**Repeated Measures ANOVA Output for Brand Credibility**

Within Subjects Effects

	Sum of Squares	df	Mean Square	F	p	η^2_p
Claim Specificity	28.195	1	28.195	16.54	<.001	0.293
Residual	68.180	40	1.704			
Benefit Framing	0.610	1	0.610	1.04	.315	0.025
Residual	23.515	40	0.588			
Claim Specificity * Benefit Framing	3.23e-29	1	3.23e-29	5.98e-29	1.000	0.000
Residual	21.625	40	0.541			

Note. Type 3 Sums of Squares

Between Subjects Effects

	Sum of Squares	df	Mean Square	F	p	η^2_p
Residual	138	40	3.45			

Note. Type 3 Sums of Squares

Note. The table presents within-subject effects for benefit framing, claim specificity and their interaction on brand credibility.

Table A3**Repeated Measures ANOVA Output for Brand Attitude***Within Subjects Effects*

	Sum of Squares	df	Mean Square	F	p	η^2_p
Claim Specificity	21.587	1	21.587	15.565	<.001	0.280
Residual	55.476	40	1.387			
Benefit Framing	1.660	1	1.660	3.032	.089	0.070
Residual	21.902	40	0.548			
Claim Specificity * Benefit Framing	0.184	1	0.184	0.621	.435	0.015
Residual	11.878	40	0.297			

Note. Type 3 Sums of Squares

Between Subjects Effects

	Sum of Squares	df	Mean Square	F	p	η^2_p
Residual	104	40	2.60			

Note. Type 3 Sums of Squares

Note. The table presents within-subject effects for benefit framing, claim specificity and their interaction on brand attitude.

Table A4**Repeated Measures ANOVA Output for Perceived Greenwashing**

Within Subjects Effects

	Sum of Squares	df	Mean Square	F	p	η^2_p
Claim Specificity	42.51372	1	42.51372	15.97903	<.001	0.285
Residual	106.42378	40	2.66059			
Benefit Framing	0.00152	1	0.00152	0.00250	.960	0.000
Residual	24.43598	40	0.61090			
Claim Specificity * Benefit Framing	0.12348	1	0.12348	0.21414	.646	0.005
Residual	23.06402	40	0.57660			

Note. Type 3 Sums of Squares

Between Subjects Effects

	Sum of Squares	df	Mean Square	F	p	η^2_p
Residual	157	40	3.93			

Note. Type 3 Sums of Squares

Note. The table presents within-subject effects for benefit framing, claim specificity and their interaction on perceived greenwashing.

Appendix B

Table B1

Correlation Matrix for Main Variables

Correlation Matrix

		Environmental Concern	Familiarity with Sustainability	PI_OVERALL	CR_OVERALL	BA_OVERALL	GW_OVERALL	Age
Environmental Concern	Pearson's r	—						
	df	—						
	p-value	—						
Familiarity with Sustainability	Pearson's r	0.578***	—					
	df	39	—					
	p-value	<.001	—					
PI_OVERALL	Pearson's r	0.314*	-0.033	—				
	df	39	39	—				
	p-value	.045	.837	—				
CR_OVERALL	Pearson's r	0.262	0.058	0.835***	—			
	df	39	39	39	—			
	p-value	.098	.719	<.001	—			
BA_OVERALL	Pearson's r	0.167	0.038	0.833***	0.829***	—		
	df	39	39	39	39	—		
	p-value	.297	.813	<.001	<.001	—		
GW_OVERALL	Pearson's r	-0.190	0.036	-0.471**	-0.555***	-0.470**	—	
	df	39	39	39	39	39	—	
	p-value	.234	.822	.002	<.001	.002	—	
Age	Pearson's r	0.195	0.150	0.452**	0.520***	0.397*	-0.286	—
	df	39	39	39	39	39	39	—
	p-value	.221	.348	.003	<.001	.010	.070	—

Note. * p < .05, ** p < .01, *** p < .001

Note. PI = Purchase Intention; BC = Brand Credibility; BA = Brand Attitude; GW = Perceived Greenwashing; EC = Environmental Concern; FSC = Sustainability Familiarity. Correlations are based on Pearson's r. Statistical significance levels are reported in the table.