

**THE POLITICS OF GREEN DISCOURSE: A
CRITICAL ANALYSIS OF ECO-
ADVERTISEMENTS IN PAKISTAN**

BY

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NATIONAL UNIVERSITY OF MODERN LANGUAGES

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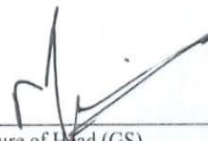
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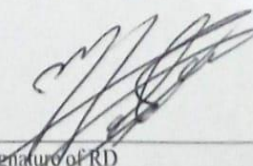


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Candidate of **Master of Philosophy** at the National University of Modern Languages do hereby declare that the thesis **The Politics of Green Discourse: A Critical Analysis of Eco-Advertisements in Pakistan** submitted by me in partial fulfillment of MPhil degree, is my original work, and has not been submitted or published earlier. I also solemnly declare that it shall not, in future, be submitted by me for obtaining any other degree from this or any other university or institution.

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ABSTRACT

Title: The Politics of Green Discourse: A Critical Analysis of Eco-Advertisements in Pakistan

This study conduct a critical evaluation, how greenwashing functions through language and imagery in product advertising in Pakistan. Using a mixed-method design, the research analyzes 110 front and 110 back labels from food, beverages, personal care, and health products. Data was compiled through purposive sampling to capture different product categories across major retail outlets. The research introduces the Tanz Model of Eco-Critical Discourse (TMED, 2025), based in established theoretical paradigms with the association of linguistic and semiotic analysis incorporating ingredient compliance audit and social impact evaluation. The model's first phase explores the graphical and linguistic structure of green language, examining eco-labeling, green metaphors, signs, and typography. The second phase inspects the validity of environmental claims by benchmarking front-label discourse with back-label factual ingredient description. Through concordance-based corpus analysis, terms like natural, pure, and organic are calibrated against chemically synthesized components such as sodium laureth sulfate, sodium benzoate, and trans fats. The third phase estimates the acceptability of these practices by measuring their latent social and environmental implications. Findings specify a momentous incongruity between green claims and actual product formulation, with many labels using elusive or illusory terms contradict by the ingredients. This deliberate use of green discourse bearing on consumer perception while moderating the presence of non-ecological or chemically saturated approaches. By assimilating quantitative frequencies with qualitative exploration, the study elucidate a linguistically anchored conceptual structure to divulge unreliable advertising and encourage critical consumer awareness.

Keywords: Benchmarking, Corpus Analysis, Critical Evaluation, Eco-Advertising, Greenwashing, Ingredient Compliance, Pakistan, Semiotic Analysis, Synthesized.

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LIST OF ABBREVIATIONS

General Abbreviations

Abbreviation Full Name

AMP	Amping Up
BF-3	Boron Trifluoride
BHT	Butylated Hydroxytoluene
C10-30	Alkyl Acrylate Cross Polymer
C 14-16	Olefin Sulfonate
CDA	Critical Discourse Analysis
CSR	Corporate Social Responsibility
DEA	Diethanolamine
DHA	Docosahexaenoic Acid
DMDM	Dimethylol Dimethyl
DNA	Deoxyribonucleic Acid
ECDA	Eco-critical Discourse Analysis
EMS	Environment Management Systems
ETDA	Ethylenediaminetetraacetic Acid
Fl oz	Fluid Ounce
G	Gram
GI	Glycemic Index
GMO	Genetically Modified Organisms
G.O.A.T	Greatest of All Time
GOS	Galacto-oligosaccharides
ISO	International Organization for Standardization
LD	Linguistic Domain
LLMs	Large Language Models
MEA	Monoethanolamine
MI	Milliliter

Abbreviation Full Name

Mtn	Mountain
NSBH	Natural Sawat Bee Honey
PCA	Pyrrolidone Carboxylate
PEG-7	Polyethylene Glycol-7
pH	Potential of Hydrogen
TEA	Triethanolamine
TMED	Tanz Model of Eco-critical Discourse
UHT	Ultra High Temperature
US	United States (of America)
UV	Ultraviolet
VD	Visual Domain
VTF	Virtual Trans-fat Free
WHO	World Health Organization

E-Numbers (Food Additives)**E-Number Full Name**

E 102	Tartrazine (Yellow Azo Dye)
E 110	Sunset Yellow (Orange Azo Dye)
E 1442	Hydroxypropyl Distarch Phosphate
E 1450	Starch Sodium Octenyl Succinate
E 160a	Beta-Carotene
E 200	Sorbic Acid
E 202	Potassium Sorbate
E 211	Sodium Benzoate
E 224	Potassium Metabisulfite
E 234	Nisin
E 270	Lactic Acid
E 320	Butylated Hydroxyanisole

E-Number Full Name

E 321	Butylated Hydroxytoluene
E 322	Lecithin
E 330	Citric Acid
E 331	Sodium Citrates
E 339	Sodium Phosphates
E 341	Calcium Phosphates
E 366	Carboxymethyl Cellulose
E 407	Carrageenan
E 410	Locust Bean Gum
E 412	Guar Gum
E 415	Xanthan Gum
E 418	Polysaccharide
E 466	Carboxymethyl Cellulose
E 471	Mono- and Diglyceride of Fatty Acids
INS 428	Gelatin
INS 440	Pectin
INS 466	Carboxymethyl Cellulose

CI Numbers (Color Index - Dyes)

CI Number	Full Name
CI 17200	Colour Index Red Dye
CI 19140	Colour Index Tartrazine (Yellow Food Dye)
CI 26100	Colour Index Red No. 17
CI 42090	Colour Index for Brilliant Blue
CI 47000	Colour Index Yellow No. 11

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DEDICATION

This thesis is dedicated to my late mother, whose love, unwavering support, and encouragement have been a guiding light in my life. Mom, though you are no longer with me, your presence lives on in every step I take and every breath I draw. This achievement is a tribute to your boundless love and enduring inspiration.

CHAPTER 1

INTRODUCTION

Over the last few years, the rising awareness of environmental and health concerns has stimulated marketing agencies to implement eco-friendly language and health-related claims to fascinate consumers. However, these approaches have also raised concerns about their legitimacy, accuracy, and propensity to convey inaccurate impression. The term greenwashing denotes to the act of making illusive claims about a product's environmental or health benefits. As defined by Marketing (2009), greenwashing is “the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service” (p. 1). This practice jeopardizes consumer trust and cast doubt on the principles of ethical marketing (Carlson et al., 1993).

To lay the groundwork for lucidity about common lexical patterns in green advertising, the terms pure, purifying, organic, herbal, natural and fresh are defined as follows: pure is defined as “a pure substance is one that contains only one type of particle or compound, free from any contaminants, impurities, or additives” (Harris, 2015, p.5) Purifying is “the process of separating and removing undesirable materials from a substance to obtain a pure product” (Skoog et al., 2014). The term “organic” is legally established by the Organic Foods Production Act (OFPA) of 1990, a federal law passed by the U.S. Congress, The act articulate that organic products are “produced and handled without the use of synthetic chemicals, fertilizers, pesticides, growth regulators, or genetically modified organisms, and certified to meet officially recognized standards” (U.S. Congress, 1990, p. 3360). This Act serves as a constitutive legal and regulatory benchmark for organic certification. Herbal states to “a preparation made from a plant or plants and used for its medicinal or therapeutic properties” (Evans, 2009, p. 3). Walters (2017) explains “natural” as ingredients that are “sourced from nature, minimally processed, and free from artificial additives or synthetic modifications” (p. 123). Finally, fresh is described as “recently made, obtained, or harvested; not preserved by freezing, canning, or other processing” (Davidson, 2014, p. 323). These precise delineations form the conceptual underpinning for this study, which provides critical inside the norm and prospective inaccuracy of these claims in eco-advertising.

Eco-linguistics, as an interdisciplinary field, provides a significant critical angle for observing greenwashing by exploring how language is intentionally engaged to establish narratives of environmental and health responsibility. Embedded in ecological discourse analysis, it probes the nexus between language and the environment, emphasizing how linguistic selections both manifest and mold ecological ideologies and consumer perceptions. In the framework of green advertising, eco-linguistic analysis aids a layered interpretation of how lexical vocabulary such as natural, organic, herbal, and eco-friendly are habitually used with extensive or ambivalent meanings, often without scientific or legal justification.

Instead of bordering such norm as subtle control, this investigation considers it as narrative framing; a practice that may inadvertently or deliberately foreground eco-positive connotations while backgrounding environmentally questionable facts. By scrutinizing both the linguistic and semiotic dimensions—including lexical selection, metaphor, layout, and color—the eco-linguistic angle uncovers how environmental claims are formed within extensive marketing discourses. This bipartite approach backings the study's integrative model, which bring together not only textual and visual discourse, but also ingredient-level inspection and product composition verification, thereby amplifying present theoretical frameworks like ECDA.

Leveraging the initial framework of eco-linguistics, Eco-Critical Discourse Analysis (ECDA) offers an aligned perspective to observe how language and visual elements interconnect with ecological and ideological concerns in marketing communication. ECDA critically explores how textual and semiotic properties in advertising can subsidize to the mainstreaming of environmentally oriented narratives that may not fully line up with essential practices. By investigating persuasive techniques, visual metaphors, and narrative constructions, this framework demonstrates how eco-themed promotional content may at times emphasize idealized sustainability while eliding the layered elements or limitations of genuine ecological contributions.

This lens accentuates to the comprehensive sociolinguistic paradigms in which green claims function, containing the persuasive power of business communication, the legislative gaps, and the rising public ecological awareness. Prominently, while ECDA offers valuable tools for examining environmental discourse, the current research introduces a comprehensive model that assimilates ingredient-level verification and socio-material implications in conjunction with textual and visual critique. This holistic

approach permits a more in-depth analysis of how semiotic and linguistic nodes interrelate with consumer interpretation and product ingredient profile, establishing the foundation for identifying multifaceted patterns of greenwashing within a numerous consumer goods sectors.

From the methodological perspective, the study draw on a mixed-method approach that syndicate corpus linguistics, semiotic analysis, and formulation based evaluation. The corpus, consist of 110 front labels and 110 back labels collected from health, food, and skincare products across Pakistan. This corpus was assembled not as an end in itself but as a tool to trace how dictions (e.g., pure, natural, green) and pictorial elements Coalesce with or contradict product formulation. Keyword annotation was utilized with the assistance of AntConc, a commonly used concordance tool, to confirm analytical accuracy and ingredients were evaluated against legally mandated protocols and authoritative scientific guidelines, confirming methodological accuracy. The corpus was not just sampled but underwent systematic coding and analyzed in an organized way, reproducible manner, supporting both qualitative interpretation and quantitative frequency analysis. This upholds that the corpus serves the study's primary aim: uncovering the broad formation of greenwashing rather than just focusing on language printed on labels.

Employing a collective eco-linguistic and eco-critical discourse analysis approach, this research investigates the relationship between linguistic and semiotic tactics in green advertising and their role in creating consumer perceptions of environmental responsibility. Such communicative approaches, while habitually framed as associated with environmental values, can rarely conceal the true formulation and environmental ramifications of the product. This critical inquiry strengthens the importance of fostering public awareness around eco-claims, boosting discourse transparency, and endorsing policy initiatives that stimulate ethical advertising practices. The study ultimately highlights the value of assimilating linguistic methodologies with interdisciplinary approaches to reveal how sustainability narratives are formed, promoted, and interpreted in commercial discourse.

This foundation paves the way for the subsequent investigation of the research problem, focusing on the gap between environmentally branded identities and the actual material composition of consumer products.

1.1 Statement of The Problem

Green language and health-related claims have become common in eco-advertising on product labels as companies try to appeal to consumers' increasing environmental and health concerns. However, this tendency leads to significant concerns about the accuracy, authenticity, and possibly deceptive character of these marketing tactics. To find out how frequently and to what level eco-advertising uses imprecise information, adding to the phenomena of greenwashing, an exploratory review is required. Inconsistent or exaggerated statements on a product's health and environmental benefits can erode consumer trust, violate ethical marketing principles, and affect their health.

1.2 Purpose of the Study

The problem statement closes a critical knowledge gap on the significance of green and health claims in product marketing by laying the groundwork for further research into the ethical issues, legal framework, and consumer perception issues related to eco-advertising. The purpose of this research is to provide a critical analysis of health claims and green language used in product labeling available in Pakistan. The study examines the representation of health and environmental benefits claimed by these products.

1.3 Objectives of the Study

Owing to the purpose of this research, the study examines the use of health and green claims in product labeling, focusing on their representation and the ethical issues surrounding eco-advertising.

The following two main objectives have been set:

- Identify greenwashing strategies in product labeling in advertising
- Critically evaluate the use of green claims in eco-advertisements.

1.4 Research Questions

This study attempts to shed light on the complexities between language, consumer preferences, and market dynamics in the context of eco-advertisement and health claims, aligning with its objectives to identify and evaluate greenwashing strategies. The main questions and sub-questions of this research are as follows:

1. Which greenwashing strategies have been used in product labeling in eco-advertisements?
 - a. Which linguistic elements contribute to creating greenwashing effects in eco-advertisements?
 - b. Which semiotic elements contribute to creating greenwashing effects in eco-advertisements?
2. How credible are the green claims in eco-advertisements based on product composition?

1.5 Research Methodology

This study adopts a mixed-method approach to investigate greenwashing strategies in eco-advertising by examining both the textual and material dimensions of product packaging. A focused dataset—comprising 110 front labels and 110 corresponding back labels—was compiled using stratified random sampling from two sectors: Health Care and Food & Beverages. Products were selected based on market visibility, either through digital presence or in-store prominence, ensuring diversity across sub-categories such as herbal supplements, dairy, skincare, and beverages.

To address the methodological limitations of existing models like Eco-Critical Discourse Analysis (ECDA) and multimodal frameworks, this research introduces the Tanz Model of Eco-Critical Discourse—a novel framework that integrates interdisciplinary tools to reveal patterns of greenwashing. The model operates across three analytical phases: (1) Semiotic Domain, which combines both linguistic and visual analysis to examine how eco-friendly narratives are constructed through words, imagery, colors, and layout; (2) Ingredient Compliance Verification, where the front-label claims are critically evaluated against back-label disclosures to assess their credibility; and (3) Social Impact Evaluation, which involves examining social relevance and market representation, the products were selected based on two indicators of public visibility: (1) a minimum threshold of 50,000 followers on social media platforms, and (2) prominent shelf placement on major racks in local departmental stores. These criteria served as proxies for consumer popularity and perceived acceptability, reflecting the types of products most likely to influence everyday purchasing behavior and public environmental perception.

The collected data functions as a structured corpus to support the analytical goals, with green keywords manually annotated and concordance lines extracted using AntConc.

The model's triangulated structure—linking semiotic framing, compositional reality, and consumer-facing impact—strengthens the reliability of findings and provides a transparent lens through which to identify greenwashing practices in the Pakistani market.

1.6 Significance of the Study

This study holds both theoretical and practical significance by contributing to the growing discourse on eco-linguistics and advertising ethics. It empowers consumers to make more informed product choices by uncovering how environmental and health-related claims are framed within commercial discourse. By critically analyzing the linguistic and visual strategies used in eco-advertising, the research challenges marketers to substantiate their green claims with evidence, thereby fostering ethical responsibility in the advertising industry. This not only encourages accountability among manufacturers and advertisers but also supports regulatory bodies in identifying vague or misleading claims that require closer scrutiny or policy intervention.

Beyond immediate consumer awareness, the research delves into how language shapes environmental ideologies and cultural norms, particularly in a market where 'green' identities are frequently promoted but not always justified. Using a critical ecological discourse framework, the study analyzes how corporate language constructs perceived credibility, often influencing public trust, brand authority, and attitudes toward sustainability and health. Through the development and application of the Tanz Model of Eco-Critical Discourse (TMED), this study offers a replicable analytical method that combines textual, semiotic, and compositional analyses, marking an innovative contribution in the field of eco-critical advertising language research.

While the study focuses primarily on English-language product packaging, this delimitation—though methodologically consistent—also presents a future research opportunity. Advertising in Pakistan often relies on Urdu or regional languages, which convey meanings through culturally embedded expressions. Recognizing this, the research establishes a foundation for future multilingual investigations into greenwashing discourse across diverse linguistic registers. Similarly, although the analysis is limited to physical product labels, this focused lens provides a structured and manageable entry point into a complex phenomenon. It also creates space for future studies to expand into digital, televised, and social media advertisements, where eco-discourse continues to evolve rapidly and pervasively.

Moreover, the study's core focus is environmental and health discourse; however, future research may benefit from exploring the intersections of green advertising with gender representation and socio-economic positioning. Many eco-products are implicitly or explicitly marketed toward gendered or class-based audiences—a factor deserving critical attention in subsequent interdisciplinary studies. By recognizing these research gaps without overstating its own reach, the study demonstrates academic rigor, reflexivity, and openness to scholarly dialogue. This capacity to inspire further inquiry not only authenticates the research but also affirms its long-term relevance to sustainability studies, advertising ethics, and discourse analysis.

While the study is rooted in linguistic inquiry, its interdisciplinary engagement with ecological ethics and consumer awareness presents fertile ground for future exploration through gender, class, or media studies. This adds to the research's value as both practically relevant and theoretically expandable.

1.7 Delimitation of the Study

This study is delimited to specific industries, including food, beverages, and personal care products, while excluding other sectors to maintain analytical focus and thematic relevance. It concentrates exclusively on Pakistani consumers, as advertising practices, eco-labeling standards, and green marketing regulations vary widely across countries, requiring the research to be contextually bounded.

The analysis is confined to physical product packaging, particularly front labels, allowing for consistent multimodal analysis of linguistic and visual elements. Advertisements disseminated through digital, televised, or social media platforms fall outside the scope of this study due to differences in media semiotics and platform-specific discourse strategies.

Additionally, this research is limited to advertisements in the English language, aligning with the disciplinary boundaries of the researcher's academic training in English Linguistics. This choice also avoids the complications of cross-linguistic comparison and ensures accuracy in interpreting lexical, syntactic, and discursive features within eco-advertising.

Finally, the dataset includes popular and socially visible products, selected based on shelf prominence and online following. Lesser-known or niche-market products were excluded to ensure comparability and highlight dominant greenwashing practices in mass-market advertising.

These delimitations ensure the research remains feasible, focused, and academically aligned, while laying a foundation for future research in multilingual, cross-sector, and media-diverse contexts.

1.8 Limitations of the Study

The limitations of this study stem from inherent methodological and disciplinary constraints that may affect its scope and generalizability. The research focuses only on specific industries, including food, beverages, and personal care products, which may exclude other sectors with relevant eco-advertising practices, such as fashion, electronics, or homecare. Future research can expand the industry scope for a more holistic view of green marketing strategies.

The study is confined to the Pakistani consumer market, and while this national focus is critical for contextual specificity, it limits the generalizability of the findings to other regions where eco-advertising rules, consumer expectations, and regulatory frameworks may differ significantly. A cross-cultural comparison could enhance understanding of how green discourse operates globally.

Additionally, the analysis is restricted to English-language advertisements. This was a deliberate disciplinary delimitation, as the researcher's academic training lies in English Linguistics, and including multilingual data would have introduced variables outside the researcher's area of expertise. However, this excludes eco-advertising in Urdu or regional languages, potentially limiting the cultural and linguistic diversity of the study. Future studies may incorporate multilingual datasets to capture broader regional nuances.

The study also focuses exclusively on physical product packaging, particularly front labels, as these serve as immediate and highly visible eco-claims in consumer environments. However, the exclusion of digital, televised, and social media advertising—which increasingly shape environmental perceptions—represents a limitation. These platforms could reveal dynamic discursive strategies that differ significantly from static print labels.

Another limitation pertains to the time-bound nature of the data. Product samples were collected within a defined period to reflect current marketing practices, but this may not capture longitudinal changes in greenwashing trends. A follow-up or longitudinal study could help identify evolving strategies and shifts in consumer response over time.

Finally, the study uses a stratified sampling strategy, prioritizing popular products with shelf prominence or strong online presence (at least 50,000 followers or significant placement in major retail stores). While this ensures relevance and recognizability, it may exclude smaller, lesser-known, or potentially more authentic sustainable brands. Consequently, the findings may reflect dominant marketing trends more than grassroots or niche practices.

These limitations are acknowledged to contextualize the findings and delimit the interpretative scope. They also point to productive avenues for future research that can build on this study's foundation while addressing its methodological and contextual constraints.

1.9 Organization of the Study

This study is organized into six chapters, each addressing a distinct aspect of the research process and contributing to the overall objectives of the study:

First chapter is introductory chapter provides an overview of the research, including the background, problem statement, research objectives, and research questions. It introduces the concept of greenwashing, emphasizing its significance in eco-advertising and eco-critical discourse. The chapter also outlines the study's theoretical framework, scope, and significance, and defines key terms used throughout the research.

The second chapter critically examines existing literature related to greenwashing, eco-advertising, consumer trust, and the use of environmental language in marketing. It explores the theoretical perspectives underpinning the study and identifies gaps in prior research, thereby justifying the need for the current investigation.

Third chapter outlines the research design and methodology adopted for the study. It details the methods of data collection and analysis, including critical ecological discourse analysis and semiotics, and explains the eco-critical discourse model used to evaluate eco-advertising language. Ethical considerations and the study's limitations are also discussed.

The fourth chapter presents the findings derived from the analysis of product labels, advertisements, and claims. It focuses on identifying patterns of greenwashing, such as linguistic manipulation and exaggerated health and environmental benefits, using the proposed eco-critical discourse model.

Next chapter interprets the findings in light of the research objectives and existing literature. It explores the implications of greenwashing on consumer trust and purchasing

behavior, emphasizing the discrepancies between advertised claims and actual product outcomes. The chapter also discusses how linguistic and semiotic strategies are employed to influence consumers.

The final chapter summarizes the key findings and their implications for consumers, marketers, and policymakers. It provides recommendations to improve transparency and accountability in eco-advertising and to combat greenwashing. Suggestions for legislative reforms and future research directions are also included.

CHAPTER 2

REVIEW OF LITERATURE

The literature review examines various aspects of eco-linguistics and its relationship with green advertising, providing insights into the linguistic, semiotic, and cultural dimensions of environmental discourse. It addresses the core principles of eco-linguistics, focusing on how language influences ecological ideologies and consumer perceptions. The discussion further explores the historical development of green marketing and eco-advertising, emphasizing their relevance in modern advertising strategies. By analyzing greenwashing practices, semiotic tools, and the linguistic construction of green claims, the review uncovers techniques used to shape consumer attitudes. Additionally, it contextualizes eco-advertising within broader cultural, political, and regulatory frameworks, with specific attention to practices in Pakistan while also referencing global perspectives. Through case studies and analyses of media channels, the review identifies existing challenges, future possibilities, and gaps in research, laying the foundation for a deeper exploration of eco-advertising and its role in promoting transparency and ethical marketing practices. This sets the stage for a deeper exploration of eco-linguistics and its main concerns, particularly in understanding how language shapes environmental narratives and influences consumer behavior.

2.1 Eco-linguistics and its Main Concerns

Eco-linguistics is an interdisciplinary domain that examines the interplay between language and the environment (Luo & Wang, 2019). It includes several subfields, such as discourse-oriented eco-linguistics, eco-stylistics, and cognitive eco-linguistics (Steffensen, 2024). The field has expanded significantly since Haugen's (1972) initial focus on multilingual contexts, shifting toward addressing environmental concerns, as highlighted in Halliday's (1990) work (Penz & Fill, 2022). Eco-linguistics investigates the role of language in shaping ecological crises and humanity's relationship with the natural world (Steffensen, 2024). The Brasilia School of Eco-linguistics situates the field within the broader context of general ecology, emphasizing the central role of communicative interaction in understanding language (Couto, 2013). Future directions in eco-linguistics are anticipated to focus on issues such as climate change, the environmental impact of tourism, and the migration of humans, animals, and plants (Penz

& Fill, 2022). However, the field faces challenges, including the over-reliance on recurring narratives and a lack of self-critique (Steffensen, 2024). This evolution in eco-linguistics provides a foundation for approaches like Eco-Critical Discourse Analysis (ECDA), which further investigates the role of language in shaping environmental ideologies and addressing ecological concerns.

Eco-critical discourse analysis (ECDA) is a growing field that adapts critical discourse analysis (CDA) methods to explore environmental issues. It investigates how language and discourse influence our perceptions of and interactions with the natural environment (Stibbe, 2014). ECDA can be applied to a range of text types, including political speeches (Mansyur et al., 2021), comics and cartoons (Youssef, 2011), and literary works (McMurry, 2019). This approach integrates linguistic analysis with ecological insights to uncover the ideological foundations of environmental discourses. Techniques from systemic functional linguistics, such as transitivity and modality, are commonly employed to analyze texts (McMurry, 2019). The primary objective of ECDA is to challenge discourses that perpetuate environmentally harmful practices while highlighting those that advocate for ecological stewardship (Stibbe, 2014). By extending critical discourse studies to consider non-human entities and future generations, ECDA redefines traditional power dynamics and calls for the creation of new theoretical approaches (Stibbe, 2014). This exploration of ECDA sets the stage for a deeper investigation into the conceptual foundations of environmental discourse, drawing on frameworks like Critical Discourse Analysis (CDA), ecocriticism, and semiotics to analyze the intricate relationship between language, power, and ecological narratives.

2.2 Conceptual Foundations

Critical Discourse Analysis (CDA) studies the relationship between language, power, ideology, and society, highlighting how texts reflect and reinforce social inequalities (Fairclough, 1992). CDA is particularly relevant in environmental law, where it reveals the influence of power in shaping discourse, yet its application in this field remains limited (Gellers, 2015).

Building on CDA, Ecocriticism examines the intersection of media, society, and the environment, critiquing traditional media practices for their role in environmental degradation. It highlights the environmental impacts of media technologies and the socio-environmental injustices faced by indigenous communities (Maxwell & Miller, 2012; Cubitt, 2014).

Eco-critical Discourse Analysis (ECDA) refines this perspective by investigating how language shapes environmental awareness and action, exploring power dynamics in society (Stibbe, 2015). A related framework, cognitive-axiological ecocriticism, integrates insights from cognitive science and literary studies. This approach explores how environmental literature influences consumer attitudes and behaviors, shedding light on the cognitive and moral dimensions of ecological engagement (Easterlin, 2012; Carreño, 2022).

In the dominion of consumer culture, marketing has evolved from traditional methods to green marketing, driven by rising consumer awareness and the need for sustainable practices. Green marketing incorporates strategies such as environmental labeling, product life cycle assessments, and eco-friendly branding to attract environmentally conscious consumers (Newman, 2021). Green advertising, as part of this shift, is often characterized by a blend of reformist and radical rhetoric. It frequently blurs the boundaries between consumerism and environmental citizenship, creating a complex dynamic in public communication (Kilbourne, 1995; Jara, 2021). However, the prevalence of greenwashing, where companies exaggerate or misrepresent their environmental efforts, remains a significant challenge (Budinsky & Bryant, 2013).

To address these issues, semiotic analysis has been employed to critically examine eco-advertisements. This approach explores how visual and rhetorical elements are utilized to foster environmental awareness and promote sustainability. Semiotic studies highlight the effectiveness of these techniques in shaping public discourse and encouraging pro-environmental behaviors (Tohamy, 2022; Bianchi, 2011). By combining the insights of CDA, ecocriticism, and semiotics, researchers can develop a more comprehensive understanding of how language and media shape environmental narratives and influence societal responses to ecological crises.

2.3 Introduction to Green Discourse and Eco-Advertising

Eco-linguistic studies, rooted in critical discourse analysis, explore how language used in environmental contexts—both spoken and written—reflects societal ideologies concerning the natural world. These studies analyze how linguistic features within environmental discourse influence public perceptions and behaviors. Constructive discourse encourages positive environmental practices, whereas exploitative discourse fosters unsustainable habits (Yuniawan et al., 2017). Within organizations, green

language plays a pivotal role in integrating sustainability into strategies, fostering responsibility and innovation (Gauthier & Zhang, 2020).

The concept of "green jobs" serves as a bridge between environmental and economic goals but often lacks a standardized definition. This inconsistency hampers its effectiveness in driving policies that align job creation with sustainability (Kouri & Clarke, 2014). Green advertising, a growing field, incorporates genuine environmental promotion, greenwashing, and nonprofit advocacy. However, these campaigns often focus on convenience and human-centered values, overshadowing long-term ecological goals (Oyedele & Dejong, 2013; Stöckl & Molnar, 2017).

Corporate greenwashing highlights the exploitation of environmental concerns for profit. Examining these practices critically is essential to ensure transparency and genuine environmental accountability (Budinsky & Bryant, 2013). In emerging markets like Pakistan, environmental awareness is increasing, presenting opportunities for green marketing. However, many advertising strategies remain superficial, emphasizing the need for improved public education on sustainability (Tarar & Qusien, 2019; Cherian & Jacob, 2012).

Green marketing has evolved as a significant business strategy, driven by consumer demand for sustainable products. Factors such as trust, environmental awareness, and social influence shape purchasing behavior. While these concepts are gaining traction in developing regions like Pakistan, addressing barriers such as cost sensitivity is essential to foster widespread adoption of eco-friendly products (Hashim et al., 2019). Integrating effective communication strategies into green marketing can further support global sustainability goals (Abbas et al., 2024). This growing emphasis on green marketing and consumer behavior paves the way for examining its historical evolution and the development of eco-advertisements as a response to shifting environmental and market dynamics.

2.4 Historical Evolution of Green Marketing and Eco-Advertisements

Green marketing has progressed through four stages: the early stage (pre-1974), ecological marketing (1975–1989), green marketing (1990–2000), and sustainable marketing (post-2000). This evolution reflects an increased focus on sustainability, moving from limited environmental awareness to integrating eco-conscious practices

across business strategies (Katrandjiev, 2016). Understanding these stages helps contextualize the ongoing shift toward more sustainable business models.

Factors driving this change include growing consumer environmental awareness, stricter regulations, and corporate responsibility initiatives. Green marketing provides businesses with a competitive edge by appealing to environmentally conscious customers, though challenges like skepticism and higher costs persist (Laheri et al., 2014). These factors emphasize the need for businesses to strike a balance between environmental responsibility and consumer trust.

Organizations are now adopting eco-friendly approaches, such as green supply chains and sustainable packaging, to lessen their environmental impact. These strategies enhance brand reputation while benefiting the environment and consumers. However, addressing concerns like greenwashing and the gap between consumer intentions and actual behaviors requires transparency and consumer education (Singh, 2012; Priti, 2021). This highlights the critical role of effective communication in bridging the gap between claims and actions.

Green advertising plays a critical role in promoting environmentally friendly products and addressing misleading claims. Campaigns such as SunChips' "solar-powered chip" highlight how brands effectively communicate their environmental initiatives. Educating consumers is essential for fostering eco-friendly behaviors and addressing skepticism about sustainability claims (Ryan, 2014; Sheehan & Atkinson, 2012). Such examples demonstrate how advertising can be a powerful tool for raising awareness and building trust.

Research on advertisements in platforms like National Geographic has shown the impact of green advertising on consumer attitudes and corporate strategies. Brands like Method use creative and relatable campaigns, such as "Detox Your Home," to connect with environmentally aware consumers without overloading them with complex information (Ahern et al., 2013; Ryan, 2012). These strategies underline the importance of simplicity and relatability in engaging audiences effectively.

The future of green marketing relies on innovation, sustainability, and narrowing the gap between consumer intentions and actions. Transparent communication, education, and genuine environmental efforts are essential to building trust and achieving long-term

success in sustainable practices. The increasing focus on sustainability underscores the vital importance of green discourse in influencing modern advertising approaches.

2.5 Importance of Green Discourse in Contemporary Advertising

Rising awareness of ecological issues has led consumers to adopt greener lifestyles, seeking to reduce their environmental impact. This shift has prompted businesses to recognize the potential of the green market, leveraging green marketing to gain a competitive advantage. In today's globalized economy, balancing consumer retention with environmental protection has become a key challenge, making green marketing essential for promoting sustainable development. Companies are integrating eco-friendly practices into their strategies to meet the growing demand for sustainable products (Narula & Sabharwal, 2016; Liu & Liu, 2020). This evolution highlights the importance of exploring the ethical dimensions of green marketing efforts in contemporary business practices.

However, some corporations exploit environmental discourses through green capitalism and greenwashing, using these to commercialize nature and obscure its value. Addressing these issues requires challenging corporate narratives that commodify nature (Budinsky & Bryant, 2013). These concerns underline the critical need for transparency and accountability in green marketing practices to maintain consumer trust.

Green marketing, driven by increasing environmental awareness, promotes products that align with sustainability. It faces challenges like consumer skepticism and implementation difficulties, but it provides both environmental and business benefits. Many companies use green marketing to enhance brand image and social responsibility, helping them differentiate in competitive markets. Future research should explore its strategic, tactical, and organizational implications in diverse social, economic, and cultural contexts (Vashisht, 2021). This complexity emphasizes the importance of integrating diverse perspectives to address the challenges of sustainable marketing.

Corporate social responsibility (CSR) and green marketing are central to promoting sustainable business practices. While CSR communication often addresses environmental concerns, it can have both positive and negative impacts on corporate reputation. Transparency, adherence to regulations, and collaboration with governments are key factors in effective CSR and green marketing strategies. As consumer behavior shifts toward sustainability, companies that integrate green marketing into CSR efforts

can improve brand loyalty and reputation (Hartmann et al., 2017; Deshmukh & Tare, 2024). This interconnectedness between CSR and green marketing highlights the need for cohesive strategies that align environmental goals with business objectives.

In developing regions like Nigeria, CSR strategies must reflect local contexts to foster growth. Green marketing offers a competitive advantage, helping businesses differentiate in competitive markets (Okonkwo Adonai et al., 2020). Companies such as Starbucks have successfully used green marketing to enhance brand loyalty by promoting social awareness and aligning with environmental sustainability. Green advertising strengthens brand image and purchase intentions, particularly for high-involvement products, with emotional and practical benefits playing a key role in consumer loyalty (Adnyana & Santika, 2021; Nagar, 2015; Hameed, 2019). These practices reveal the intricate relationship between language and sustainability, setting the stage for a deeper exploration of how eco-linguistics uncovers the dynamics of greenwashing in advertising.

2.6 Eco-linguistics and Greenwashing Dynamics

Eco-linguistics and greenwashing are closely linked within the realm of environmental communication. Eco-linguistics explores how language shapes perceptions and behaviors regarding the environment (Yuniawan et al., 2017). Greenwashing, a term introduced in 1986, describes the use of environmental language and imagery to present corporate activities as environmentally responsible, often without substantial ecological benefits (Devauld & Green, 2010). This tactic is commonly observed in advertising, where businesses employ linguistic and semiotic strategies to construct an eco-friendly brand identity (Stöckl & Molnar, 2017). Additionally, environmental organizations such as Greenpeace utilize multimedia storytelling to engage audiences, incorporating advertising techniques like compelling visuals and intertextual references (Abbamonte, 2021). Analyzing eco-advertising and greenwashing necessitates a critical perspective that integrates eco-linguistics and discourse analysis to examine how language, imagery, and environmental narratives interact across different media platforms. This critical lens paves the way for semiotic analysis, which delves deeper into how visual and symbolic elements in eco-advertisements reinforce or challenge these environmental narratives.

2.7 Semiotic Analysis in Eco-Advertisement

Semiotic analysis in advertising, particularly through Barthes' theory, has been widely researched. In "The Rhetoric of the Image" (1964), Barthes focuses on identifying linguistic, connoted, and denoted messages in advertisements (Vetrova, 2021). This

approach has been applied to various advertising contexts, including A-Mild cigarette advertisements (Ala, 2011) and SKIN1004 skincare products (Satrisna & Ariyaningsih, 2024). Barthes' theory allows for the exploration of deeper meanings and myths embedded in advertising messages (Vetrova, 2021). While originally based on classical rhetoric tools, semiotic studies of advertising have expanded to include narratological analysis and the "passion turn," emphasizing emotions and sensations in ads (Bianchi, 2011). However, Barthes' approach has some limitations, such as overlooking the recipient's perspective, which could be addressed by incorporating cognitive approaches in multimodal text analysis (Vetrova, 2021). This foundation of semiotic studies provides a critical lens to analyze the deeper meanings behind green advertising and its role in promoting sustainability.

Semiotic analysis is essential in understanding green advertising and its influence on how consumers perceive sustainability. Advertisements use a combination of visual and linguistic elements to communicate eco-friendly messages and shape consumer attitudes (Stöckl & Molnar, 2017; Dewanti, 2023). The structuralist semiotic approach, developed by Ferdinand de Saussure, offers a framework for examining how signs in advertisements generate meaning and shape consumer perceptions of products (Dewanti, 2023). The visual appeal of ads, as well as the environmental claims they present, play a significant role in forming green brand associations and shaping consumer attitudes (Kostan & Salendu, 2020). However, the emphasis on visual aesthetics may interfere with the objective assessment of environmental claims (Kostan & Salendu, 2020). Ultimately, exposure to sustainable brand advertising is strongly linked to positive consumer perceptions, underscoring the powerful role of advertising in influencing attitudes and driving purchase decisions for sustainable products (Eyada, 2024). This growing emphasis on green advertising highlights the importance of semiotics in influencing consumer behavior and bridging gaps in environmental communication.

Recent research has examined the role of semiotics in environmental discourse, providing valuable insights into human-environment interactions. Semiotics offers a framework to understand environmental issues as a result of disconnections in how humans and the environment communicate through signs, highlighting the importance of dissent in addressing these problems (Low, 2008). Environmental semiotics has developed as a socio-environmental research field, exploring linguistic tensions in communities dealing with environmental challenges (Frich & Espejel, 2006). Proposals have been made to integrate semiotics with Earth system science, using semantic network

analysis of research abstracts to offer fresh perspectives on environmental research (Olteanu et al., 2019). Furthermore, semiotic analysis has been applied to urban environments, exploring how "green" semiotic materials influence environmental values and priorities in cities working toward sustainability. This approach sheds light on the socioeconomic implications of urban eco-arenas and environmental initiatives (Kosatica, 2023). These findings underline the broad applications of semiotics in addressing environmental challenges and promoting sustainable urban and consumer practices.

Eco-friendly marketing uses a range of strategies to encourage consumers to make sustainable choices. Key components include eco-labels, environmental advertising, and eco-brands (Mallick et al., 2024). Eco-labels act as visual signals of a product's environmental credentials, while factors like brand authenticity and corporate social responsibility significantly influence consumer preferences (Mallick et al., 2024). Millennials, in particular, tend to be guided by a company's reputation, product labels, and packaging when selecting environmentally friendly products (Smith & Brower, 2012). Common terms used in green marketing include sustainable, ethical, green, ecological, and eco-friendly (Bhardwaj et al., 2023). These tactics are designed to appeal to environmentally aware consumers and offer businesses a competitive edge (Shingrup, 2013). Successful eco-friendly marketing depends on transparency, certifications, and the emotional appeal of advertisements to highlight environmental benefits and shape consumer behavior (Mallick et al., 2024; Smith & Brower, 2012). Building on the role of semiotic analysis in understanding eco-advertising, the symbolic and ecological meanings of colors further illuminate how visual elements communicate sustainability and environmental values.

The ecological meanings of colors have been explored in various texts, emphasizing their symbolic and cultural significance. For instance, green is often associated with life, fertility, and environmentalism, while blue signifies water, tranquility, and trust (Gage, 1999; St. Clair, 2016). Orange represents energy and vitality, and white embodies purity, simplicity, and peace (Van Leeuwen, 2011; St. Clair, 2016). In *Chromophobia*, Batchelor (2000) highlights the Western tendency to suppress vibrant colors, which symbolize ecological richness, in favor of sterile, monochromatic aesthetics. Gage (1999), in *Color and Meaning*, links colors to their natural phenomena, tracing their symbolic origins and cultural interpretations. Similarly, *The Secret Lives of Color* by St. Clair (2016) examines the historical context and natural sources of pigments, connecting them to ecological themes such as sustainability and balance. Van Leeuwen

(2011), in *The Language of Colour*, explores how colors communicate meanings across various contexts, including environmental discourse, where green dominates sustainability narratives. Together, these works highlight how colors like green, blue, white, and orange embody ecological values and communicate environmental messages across cultures and mediums. These insights into the ecological meanings of colors pave the way for a deeper linguistic evaluation of green claims, exploring how language further reinforces or challenges sustainability narratives.

2.8 Linguistic Evaluation and Green Claims

Figurative language plays a vital role in green marketing, particularly in advertising, where stylistic devices such as metaphors and hyperbole are frequently used in brand slogans to create memorable and persuasive messages (Mustansir et al., 2024). These linguistic strategies enhance clarity, conciseness, and impact in advertisements; however, their effectiveness depends on the audience's shared background knowledge, as misunderstandings can arise without it (Pérez Sobrino et al., 2021). Within eco-advertising, distinct categories have emerged, including green commercial advertising, greenwashed advertising, and nonprofit or social green advertising, each characterized by unique linguistic and semiotic features (Stöckl & Molnar, 2017). Environmental advertisements often incorporate pictorial metaphors to simplify complex issues like climate change, making them more visually engaging for audiences (Chulvi Rodríguez, 2019). By strategically employing figurative language, green advertising not only strengthens brand identity in a competitive market but also enhances the effectiveness of environmental messaging (Mustansir et al., 2024; Pérez Sobrino et al., 2021). These strategies demonstrate how linguistic creativity bridges the gap between consumer engagement and environmental awareness.

Research suggests that linguistic strategies significantly influence consumer perceptions of environmental responsibility in advertising. Persuasive communication techniques, such as emphasizing eco-friendly attributes, fostering a positive brand image, and establishing a sense of intimacy, are commonly used to enhance the perceived environmental value of products (Karpova, 2019). However, the success of pro-social positioning strategies is contingent on consumer trust in the marketing source and their perception of personal responsibility (Osterhus, 1997). Three primary marketing communication strategies—informing, self-presentation, and manipulation—have been identified (Varlamova & Polyakova, 2023). These strategies are executed using various

tactics, such as referencing authoritative opinions, emphasizing product uniqueness, targeting specific consumer groups, and utilizing semiotic elements. Notably, the strategy of highlighting product uniqueness plays a crucial role in both American and Spanish linguistic contexts, employing lexical and semantic techniques to underscore beneficial ingredients and their frequency of use (Varlamova & Polyakova, 2023). The interplay between language and consumer perception underpins the importance of clarity and authenticity in green advertising.

Research on greenwashing highlights its intricate effects on consumer perceptions and behavior. While it may enhance the impression of a company's environmental performance, it also significantly undermines perceived integrity and fails to increase purchase intent when compared to companies without green claims (De Jong et al., 2017). Consumers are more likely to recognize false environmental claims as greenwashing, which negatively affects their attitudes toward both advertisements and brands (Schmuck et al., 2018). However, advertisements that incorporate nature-evoking imagery in greenwashing campaigns can positively shape consumer evaluations through emotional appeal (Schmuck et al., 2018). Some studies indicate that greenwashing can have a favorable impact on consumer perceptions (Sankar Ganesh & Sudhamaheswari, 2024), though this finding contrasts with other research. The influence of greenwashing on stakeholder perceptions depends on the type and extent of misleading environmental communication used (Kommuri & Arumugam, 2024). In general, while greenwashing may temporarily enhance environmental credibility, it presents substantial risks to corporate integrity and stakeholder trust. This underscores the importance of critically examining greenwashing practices to distinguish genuine sustainability efforts from deceptive claims.

2.9 Greenwashing

Greenwashing, a deceptive tactic where companies present themselves as eco-friendly, often involves selectively disclosing favorable information while omitting environmental drawbacks, creating an unjustifiably positive image (Mitchell & Ramey, 2011). This practice is widespread; research reveals that nearly all products marketed as "green" include some form of greenwashing (Aji & Sutikno, 2015). Many companies focus more on marketing their products as environmentally friendly as on genuinely reducing their environmental impact (Aggarwal & Kadyan, 2014). Such actions lead to consumer skepticism and perceived risk (Aji & Sutikno, 2015). Nevertheless, heightened

awareness and technological advances have led to increased monitoring, potentially reducing sophisticated greenwashing practices (Bowen & Aragón-Correa, 2014). To address these issues, researchers recommend strategies for companies to avoid greenwashing, guidance for consumers to recognize it, and regulatory measures to restrict it (Aggarwal & Kadyan, 2011). These efforts emphasize the necessity of fostering genuine sustainability practices for lasting impact.

Greenwashing, where companies make misleading claims about environmental responsibility, is widespread across industries, especially in the automotive, industrial manufacturing, and cosmetics sectors (Khandelwal et al., 2019). Companies often use ambiguous terms like "eco-friendly" and create a perceived shared value with consumers to foster a misleading image of sustainability (Khandelwal et al., 2019; Haws, 2022). These tactics frequently rely on buzzwords, eroding consumer trust over time (Seberíni et al., 2024). The impact of greenwashing goes beyond consumer perception, disrupting genuine environmental initiatives and influencing regulatory practices (Samriddha & Manickam, 2024). To counter greenwashing, researchers recommend increasing public awareness, enforcing stricter regulations, and promoting transparency in corporate sustainability efforts (Khandelwal et al., 2019; Seberíni et al., 2024). Consumers can further protect themselves by verifying product claims and familiarizing themselves with greenwashing tactics (Seberíni et al., 2024; Haws, 2022). Collaboration among stakeholders is key to mitigating the detrimental effects of greenwashing on sustainability efforts.

Greenwashing, the practice of deceiving consumers with false environmental claims, has a detrimental effect on consumer trust and brand perception. Research indicates that greenwashing diminishes perceived green value, green trust, and brand attachment (Butt et al., 2022). It also contributes to consumer confusion and heightened perceived risk, while negatively affecting brand image (Butt et al., 2022; Mangini et al., 2020). Consumers who identify greenwashing are less likely to trust the product or brand (Mangini et al., 2020). The negative consequences of greenwashing extend to purchasing behavior, with green trust and word-of-mouth serving as mediators in this relationship (Guerreiro & Pacheco, 2021). To foster consumer trust and promote sustainable purchasing, companies must avoid greenwashing and offer genuine environmental value (Butt et al., 2022; Nisa et al., 2023). Building green trust is essential for fostering strong consumer relationships and increasing market share, as it has a significant impact on

consumer brand engagement and green purchasing intentions (Butt et al., 2022; Guerreiro & Pacheco, 2021). Addressing these challenges requires a focus on effective green advertising strategies that foster authenticity and consumer engagement.

2.10 Green Advertising Strategies

Green advertising strategies focus on integrating environmental messages into advertisements to enhance corporate image and attract eco-conscious consumers. These strategies include categorizing ads based on sponsor type, ad focus, and the depth of environmental information provided (Testa et al., 2011). Such categorization provides a foundation for developing targeted and effective green advertising campaigns.

A growing trend in green advertising emphasizes a company's overall green image rather than the specific environmental benefits of products. This approach reflects consumer skepticism and aims to build trust in green claims (Leonidou et al., 2011). Despite efforts to align consumer attitudes with purchasing behavior, the attitude-behavior gap remains a challenge, as many consumers express a willingness to buy eco-friendly products but often do not act on it (Sheehan & Atkinson, 2012). Bridging this gap requires innovative strategies that resonate with both consumer beliefs and actions.

Green advertising strategies vary in effectiveness based on consumer perceptions, such as busyness. Other-benefiting appeals are more successful for busy consumers, while self-benefiting appeals work better for less busy individuals (Dai & Sheng, 2022). Guilt appeals can be effective in green advertising, depending on the consumer's environmental awareness and the relevance of the issue (Chang, 2012). Understanding these nuanced consumer responses is critical for tailoring impactful green advertising campaigns.

Green advertising improves consumer perceptions of product quality, price fairness, and purchase intentions, especially when combined with low pricing strategies. These approaches enhance perceived value and reduce financial risk, encouraging consumers to shift their views of green products positively (Wei et al., 2012). However, the effectiveness of green advertising can vary significantly across different cultural contexts, highlighting the need to understand how eco-advertisements are perceived worldwide.

2.11 Cultural Context of Eco-Advertisements World Wide

The cultural context plays a vital role in determining the effectiveness of eco-advertisements in various countries. Research indicates that collectivist messaging resonates more with Indian audiences, while American consumers respond better to individualistic appeals (Muralidharan et al., 2017). Similarly, a study comparing the U.S. and Thailand found that although both countries favor similar advertising appeals, they prioritize them differently, in line with Hofstede's cultural dimensions (Ruanguttamanun, 2023). Culture also shapes the approach to online eco-tourism advertising, where the commercialization of nature and culture can sometimes clash with sustainability goals (Dorsey et al., 2004). Additionally, a critical analysis of green advertising reveals that Western and Chinese audiences process environmental messages differently, underscoring the need to consider cultural nuances in communication strategies (Liu & Liu, 2020). These insights emphasize the importance of adapting eco-advertisements to specific cultural contexts to enhance their effectiveness, which remains vital for shaping consumer behavior globally.

In Mexico, advertisements that align with local cultural norms and social roles tend to be more positively received and increase purchase intentions (Gregory & Munch, 1997). Cultural values, combined with environmental messaging, significantly influence green purchase intentions, with education level and gender serving as moderating factors (Chekima et al., 2016). A cross-cultural study comparing the U.S. and Thailand found that, although both countries showed a preference for similar appeals in green advertising, their prioritization of these appeals varied, reflecting Hofstede's cultural dimensions (Ruanguttamanun, 2023). These insights emphasize the need for green advertising strategies to be culturally aligned to enhance effectiveness in different markets and create sustainable consumer engagement.

Comparative research on eco-advertising highlights notable cross-cultural differences in both perception and effectiveness. In individualistic cultures like the U.S., ads that stress brand superiority tend to be more persuasive, whereas collectivist cultures favor advertisements that emphasize similarities between brands (Gürhan-Canli & Maheswaran, 2000). Low-context communication cultures are generally more receptive to direct comparative advertising, while high-context cultures may respond less favorably (Shao et al., 2004). The perceived effectiveness of environmental advertising is also shaped by the apparent effort behind prior environmental commitments, with Americans

being more influenced by high-effort pledges than Koreans (Yoon et al., 2018). Additionally, cultural differences extend to cognitive processing styles in green advertising, as Western and Chinese audiences interpret environmental messages differently (Liu & Liu, 2020). These insights highlight the importance of tailoring eco-advertising strategies to cultural preferences, particularly in regions like Pakistan, where societal and cultural barriers significantly shape green discourse.

2.12 Social and Cultural Aspects of Environmentalism in Pakistan

Green discourse in Pakistan encounters multiple cultural and societal barriers. Media often uses metaphorical language that influences environmental perception, with nature depicted as competitive, personified, or mechanical (Sabeen, 2023). Limited awareness, knowledge, and skills are significant obstacles to adopting green marketing and banking in Pakistan (Siddique et al., 2013; Qureshi & Hussain, 2022). Sociocultural dynamics also play a crucial role in shaping language and expression, impacting the communication of environmental issues (Tariq et al., 2019). Additionally, the lack of government support, legal enforcement, and incentives restricts the growth of sustainable practices (Siddique et al., 2013; Qureshi & Hussain, 2022). Challenges such as cultural resistance to change and inadequate infrastructure further complicate green initiatives (Qureshi & Hussain, 2022). To foster green discourse, scholars recommend adopting more responsible metaphorical language in media (Sabeen, 2023) and updating green banking guidelines with legal backing and incentives (Qureshi & Hussain, 2022). These barriers and recommendations set the stage for examining the gender and cultural dimensions of environmental practices in Pakistan.

Recent research on environmentalism in Pakistan highlights the critical role of social, cultural, and gender dimensions in shaping environmental practices and policies. Studies have emphasized the contributions of women to environmental activism, particularly through an eco-feminist perspective, which underscores their unique connection to both social and natural ecosystems (Haq et al., 2020; Mansab & Khan, 2023). These findings advocate for increased participation of women in environmental policymaking to incorporate their perspectives in creating more inclusive and effective solutions. Additionally, efforts to develop culturally relevant green building rating systems have integrated local contexts, government policies, and traditional sustainability factors, reflecting the importance of aligning global sustainability standards with local

needs (Khan et al., 2021). These insights point to the importance of addressing Pakistan's socio-cultural context in designing effective eco-advertising strategies.

Research on socio-demographic factors in environmental awareness and willingness to pay for climate change mitigation highlights patterns that align with global theories but also reveal unique contextual variations specific to Pakistan (Rasool & Ogunbode, 2015). Our study builds on these findings by investigating how eco-advertisements in Pakistan reflect and shape these socio-cultural dimensions. By combining semiotic and ingredient analysis of product claims, we aim to uncover how cultural and social factors, including gendered perspectives, influence green marketing strategies and consumer perceptions. This approach emphasizes the importance of tailoring environmental initiatives to local cultural and social contexts for more sustainable outcomes.

The influence of social movements and public opinion on eco-advertising in Pakistan is shaped by diverse cultural and social factors. Research on advertising attitudes in the country identifies distinct perspectives, with university students exhibiting two primary viewpoints: "Sanguine," reflecting positive attitudes, and "Antagonist," indicating skepticism towards advertising (Fahim et al., 2013). Cultural factors, such as power distance and masculinity, play a critical role in moderating the impact of product information, social integration, and hedonistic appeals on consumer attitudes (Usman et al., 2010). Regional subcultures further influence perceptions of socially-sensitive advertising, with the potential for brand rejection when cultural sensitivities are overlooked (Ammar et al., 2014). These findings demonstrate the nuanced relationship between consumer attitudes and cultural influences, particularly as they relate to environmental advertising.

Environmental concerns are gaining traction in Pakistan, with increasing public awareness and responsiveness to green issues (Sabir et al., 2014). This rising eco-consciousness creates opportunities for marketers to promote green products and sustainable technologies. However, advertisers must navigate Pakistan's complex cultural dynamics and regional sensitivities to effectively convey their messages without alienating target audiences (Ammar et al., 2014; Sabir et al., 2014). Building on this context, our research examines how eco-advertisements leverage semiotic and ingredient analysis to address public opinion and cultural factors. By exploring how advertisements balance green claims with cultural considerations, our study aims to uncover strategies

that can enhance public trust and promote sustainable consumption in Pakistan. These strategies, however, cannot succeed in isolation and require alignment with regulatory and policy frameworks that ensure transparency and accountability in eco-advertising practices.

2.13 Regulatory and Policy Framework for Eco-Advertising

Eco-advertising has become an increasingly visible part of Pakistan's marketing landscape, yet the country lacks clearly defined legal and institutional mechanisms to monitor, verify, and sanction environmental claims (Tarar & Qusien, 2019). While consumer awareness is growing—especially among university students—advertising often relies on symbolic language and visual cues rather than verifiable claims, creating conditions for greenwashing (Sabir, Khan, & Rehman, 2014; Siddique et al., 2013). This section examines Pakistan's regulatory position, compares it with international benchmarks, and outlines strategic directions that respond both to local cultural realities and to the need for policy reform. It also situates the present study's contribution (use of the Tanz Model of Eco-Critical Discourse and analysis of a 110-product corpus) as a means to provide evidence-based guidance for regulatory improvements.

2.13.1 Lack of Defined Guidelines for Eco-Advertising

Pakistan currently lacks legislation or official guidance that specifically defines or regulates eco-claims in advertising. Common marketing terms—such as “green,” “organic,” “pure,” and “natural”—are widely used on product packaging and in promotional copy without standardized definitions or mandatory substantiation, a gap that allows misleading claims to persist (Siddique et al., 2013). While the Environmental Protection Act (1997) and the National Climate Change Policy (2021) set general environmental goals, they do not provide operational rules for advertising language or labelling verification (Tarar & Qusien, 2019). This legal silence is compounded by limited coordination between agencies such as PSQCA and Pak-EPA, leaving advertisers little incentive or compulsion to substantiate environmental claims.

2.13.2 Policy Instruments With Indirect Relevance

A number of national initiatives and sectoral guidelines have indirect bearing on green marketing, but they do not substitute for explicit eco-advertising standards. Examples include the State Bank of Pakistan's Green Banking Guidelines (2017) and the Government's Green Stimulus and Clean Green Pakistan initiatives; these promote

sustainable practice but do not regulate how environmental claims are communicated to consumers (Qureshi & Hussain, 2022). Sociocultural factors further shape environmental discourse in Pakistan: environmental messaging frequently draws on moral, religious, or idiomatic registers rather than technical verification (Tariq et al., 2019; Sabeen, 2023). International instruments—such as ACCC guidance (Australia) and the EU’s Green Claims proposals—provide useful comparators for how governments can require verifiability and restrict vague claims (Australian Competition and Consumer Commission [ACCC], 2023; European Commission, 2022).

2.13.3 Barriers to Implementation and Enforcement

Even where policy instruments exist, implementation is impeded by institutional weaknesses: limited technical capacity in regulatory agencies, weak inter-agency coordination, and low stakeholder pressure for compliance (Qureshi & Hussain, 2022; Siddique et al., 2013). Firms face little legal risk for unsubstantiated claims, and consumer remedies or class actions are rare. Moreover, marketers exploit cultural trust markers (e.g., “halal purity,” religious resonances) to boost credibility without third-party substantiation, complicating enforcement efforts (Tarar & Qusien, 2019; Tariq et al., 2019). Consumer education gaps mean that even environmentally aware segments (e.g., students) may lack the tools to discriminate credible claims (Sabir et al., 2014).

2.13.4 Opportunities and Strategic Directions

There are clear, practical steps to strengthen the credibility of eco-advertising in Pakistan. These include: (a) defining key terms legally (what constitutes “organic,” “natural,” “biodegradable”); (b) instituting third-party certification or mandatory substantiation for select high-impact claims; (c) strengthening PSQCA/Pak-EPA technical capacity and inter-agency enforcement; and (d) rolling out consumer education campaigns. Industry actors can adopt voluntary best practices borrowed from ACCC, EU and UNEP guidance—e.g., requiring lifecycle-based evidence or limiting use of sweeping adjectives without proof (ACCC, 2023; European Commission, 2022; United Nations Environment Programme [UNEP], 2021). At the marketing level, firms should prioritize transparent ingredient disclosure, avoid vague symbolic claims, and invest in verifiable eco-labels (Kaakeh et al., 2021; Chen et al., 2020).

2.13.5 Research Contribution

This study contributes to filling the policy-research gap in three ways. First, it provides empirical evidence from a corpus of 110 product front-labels showing how linguistic and semiotic tactics are used to create perceived environmental credibility in the absence of regulatory checks. Second, it introduces and applies the Tanz Model of Eco-Critical Discourse (TMED) as an integrated instrument for (i) linguistic analysis of claims, (ii) semiotic analysis of visuals, (iii) ingredient/compositional verification, and (iv) evaluation of social/ideological impact — a triangulated approach not yet used in Pakistan's green-advertising literature. Third, by mapping observed discursive strategies onto existing regulatory lacunae, the study produces actionable recommendations for policymakers and standard-setting bodies. In short, the study's original contribution lies in linking fine-grained discourse analysis to concrete regulatory reform proposals that are sensitive to Pakistan's cultural and institutional context.

2.14 Media and Communication Channels

Media platforms play a vital role in promoting eco-advertisements and increasing environmental awareness. Traditional mass media outlets, such as newspapers, magazines, radio, and television, have long been effective in spreading environmental messages (Kushwaha, 2015). In recent years, social media has become a significant force in eco-friendly advertising, with peer-to-peer communication often driving eco-purchasing involvement more effectively than corporate messages (Byrum, 2019). The success of eco-friendly ads on social media hinges on the alignment between the type of appeal used and the platform's level of user connection, with concrete appeals working better on platforms with strong ties and abstract appeals resonating more on platforms with weaker ties (Yan et al., 2024). Media technologies play an essential role in addressing the global environmental crisis, with various platforms converging to highlight environmental issues (Rust et al., 2015). A better understanding of how different media channels interact and their effect on eco-advertising can help enhance the impact of environmental communication strategies, forming a foundation for exploring how these channels influence public perceptions in Pakistan.

Research has shown that digital advertising is becoming more effective at promoting products, especially among younger consumers, compared to traditional media (Fuxman et al., 2014). However, the success of green marketing communication depends on both the target audience and the communication channels employed. Consumers who

are highly environmentally conscious tend to respond more positively to verbal or text-based information, while those less concerned with environmental issues are more influenced by nonverbal or pictorial communication (Grebmer, 2020). In multichannel retail environments, integrated digital communication plays a key role in shaping the behavior of green consumers (Oncioiu et al., 2023). These findings highlight the importance of businesses tailoring their communication strategies to their target audience when implementing green marketing campaigns, which is particularly relevant for addressing Pakistan's unique consumer dynamics.

Media campaigns have played a pivotal role in addressing public health and social issues in Pakistan. Television and newspaper ads have been particularly effective in shaping attitudes toward tax compliance (Cyan et al., 2016). In the fight against polio, television was found to be the most impactful medium for educating mothers about immunization, with urban mothers who were literate showing higher levels of awareness (Latif et al., 2020). Effective communication strategies—such as mass media campaigns, community mobilization, and interpersonal communication—have significantly contributed to increasing polio vaccination rates, especially among difficult-to-reach populations in Pakistan and India (Obregón et al., 2009). Additionally, media campaigns have been used to promote road safety in southern Punjab, where a majority of respondents supported the enforcement of mandatory helmet use for motorcyclists (Shah & Shahzad, 2023). These findings underscore the importance of timely, research-informed, and multi-channel communication strategies in achieving public health and social goals in Pakistan. These insights highlight the critical role of media campaigns in shaping public behavior and attitudes, paving the way for a discussion on relevant government policies and initiatives that support such efforts.

2.15 Relevant Government Policies and Initiatives

Pakistan faces significant environmental challenges, including air and water pollution, deforestation, and land degradation. The government has implemented various policies, such as the Pakistan Environmental Protection Act of 1997 and the National Environment Action Plan, aimed at addressing these issues (Mukhtar, 2023; Sohail et al., 2014). However, the effectiveness of these policies has been constrained by weak enforcement and limited monitoring mechanisms (Faruquee, 1997). Furthermore, economic policies, such as subsidies for resource-intensive activities, have contributed to overconsumption and deforestation, exacerbating environmental degradation (Faruquee,

1997). Rapid population growth, urban expansion, and industrial development have intensified pollution, negatively impacting public health (Mukhtar, 2023; Sohail et al., 2014). In this context, our research highlights the need for more integrated approaches that combine regulatory measures with ingredient-based analysis of eco-advertisements. By examining product labels and marketing claims, we can uncover misleading practices that contribute to greenwashing and undermine environmental sustainability. Effective policy solutions should not only focus on stricter enforcement but also engage local communities and market-based incentives to ensure long-term protection of natural resources (Faruquee, 1997). Effective policy solutions should not only focus on stricter enforcement but also engage local communities and market-based incentives to ensure long-term protection of natural resources, creating a pathway for exploring how green advertising can complement these efforts.

Recent studies emphasize the significance of eco-friendly initiatives and government policies in promoting sustainability in Pakistan. Green advertising plays a vital role in encouraging consumer support for sustainable business practices, with studies revealing gender-specific preferences in eco-consumption (Kaakeh et al., 2021). However, Pakistan faces persistent challenges in implementing sustainable development plans due to weak monitoring and evaluation mechanisms (Faisal, 2017). Government responses during the COVID-19 pandemic, such as lockdowns and financial support programs, brought attention to socio-economic vulnerabilities that hinder the progress of sustainability-focused initiatives (Farooq et al., 2020). Additionally, digital marketing has emerged as a critical tool for improving transparency, citizen satisfaction, and engagement in public sector projects, including environmental initiatives (Arfeen, 2017). Additionally, digital marketing has emerged as a critical tool for improving transparency, citizen satisfaction, and engagement in public sector projects, including environmental initiatives, emphasizing the potential for eco-advertising to bridge gaps in policy implementation.

In the context of eco-advertising, these challenges highlight the need for effective communication strategies that bridge the gap between policy objectives and consumer awareness. This research examines how eco-advertisements in Pakistan leverage product claims and semiotic tools to align with or deviate from government-backed sustainability goals. By incorporating ingredient analysis into eco-advertising evaluations, this study aims to uncover potential greenwashing practices and recommend improvements in

regulatory oversight. Furthermore, integrating digital tools to enhance eco-advertising campaigns can ensure better outreach, citizen participation, and accountability in promoting environmental sustainability. Drawing on these insights, a comparison with global case studies of green language in advertising can provide valuable lessons and best practices to further enhance the effectiveness of eco-advertising in Pakistan.

2.16 Global Case Studies of Green Language in Advertising

Green advertising has undergone significant changes in recent decades as companies increasingly showcase their environmental initiatives to align with consumer expectations (Kwon et al., 2023). Despite this positive shift, research indicates that more than 70% of environmental claims are misleading, raising concerns about greenwashing practices (Kwon et al., 2023). A study analyzing advertisements in National Geographic over time found a link between the prevalence of green advertising and economic conditions (Ahern et al., 2013). Additionally, international firms' green advertising strategies have been explored, uncovering key patterns in advertiser profiles, target audiences, and message content (Leonidou et al., 2011). Additionally, examining specific case studies can shed light on how brands effectively navigate the challenges of maintaining credibility while promoting their environmental initiatives.

Case studies, such as the one on Method cleaning products, illustrate how brands employ rhetorical techniques and agenda-setting to construct a green consumer-citizen identity (Ryan, 2012). These findings emphasize the importance of ensuring that environmental claims in advertising are credible and transparent. To combat rising consumer skepticism, advertisers and policymakers must work collaboratively to create responsible green marketing practices (Kwon et al., 2023; Leonidou et al., 2011). Similarly, analyzing case studies of eco-advertisements in Pakistan can provide insights into how local brands address environmental challenges and communicate sustainability to their consumers.

2.17 Case Studies of Eco-Advertisements in Pakistan

Recent research on eco-advertising in Pakistan highlights a combination of emerging trends and persistent challenges. While environmental themes have increasingly appeared in advertisements, they often remain superficial or misleading, thereby limiting their potential to foster meaningful climate change communication (Tarar & Qusien, 2018). Advertisers frequently employ persuasive techniques, such as positive framing and emotional appeals, particularly evident in the promotion of dietary sugar products (Shahid

et al., 2023). Investigations into green advertising's influence on the purchasing behavior of Pakistani university students indicate a growing awareness of environmental concerns (Sabir et al., 2014). Similarly, linguistic analyses of food advertisements demonstrate that brands often construct eco-friendly narratives that, in reality, serve to promote consumerism and the substitution of natural goods (Ain et al., 2021). Collectively, these studies suggest that although eco-advertising is becoming more visible, there is a pressing need for more authentic and ethically responsible environmental communication within Pakistan's advertising landscape.

Green marketing in Pakistan continues to encounter several obstacles, including limited consumer education and insufficient government oversight (Siddique et al., 2013). Nevertheless, environmental concern, advertising, and word-of-mouth communication have been found to significantly influence green purchasing behavior (Hayat & Ahmed, 2017). Marketing strategies such as eco-labeling, green branding, and environmentally focused advertisements appear to positively affect consumer behavior, with environmental awareness serving as a key mediating factor (Haq et al., 2021). Despite infrastructural and regulatory limitations, consumer receptiveness to eco-friendly campaigns is increasing (Sabir et al., 2014). The push toward green marketing has also been driven by large-scale retailers and brands demanding sustainable practices from their suppliers (Siddique et al., 2013). As Pakistan evolves into a market more attuned to environmental values, examining consumer perceptions of eco-advertising becomes essential for both local and global stakeholders (Sabir et al., 2014).

Recent studies have expanded on how eco-advertisements, in conjunction with environmental awareness, shape consumer preferences. Factors such as environmental concern, awareness of eco-friendly products, brand reputation, and price sensitivity play a critical role in purchasing decisions (Hussain et al., 2014; Iftikhar et al., 2022). Green marketing tactics—such as eco-labels, symbolic colors (e.g., green, brown), and nature-oriented metaphors—have been shown to enhance consumer perceptions of authenticity (Haq et al., 2021; Masood & Hassan, 2023).

In the Pakistani context, multiple haircare and skincare brands utilize terms such as “100% natural,” “chemical-free,” and “pure herbal” without providing supporting certifications or verifiable ingredient data. A semiotic analysis of these product packages reveals recurring use of natural imagery (e.g., leaves, water droplets, flowers), green-colored fonts, and minimalist design schemes intended to simulate environmental sincerity (Masood & Hassan, 2023). However, upon closer inspection, many such

products contain synthetic additives, chemical preservatives, and non-sustainable packaging materials, reflecting typical greenwashing patterns.

Similar tactics are observed in the beverage industry. For example, various local tea and juice brands employ slogans like “har sip mein fitrat” [nature in every sip] or “organic vitality” while using non-biodegradable materials or artificial flavoring. Some of these instances are drawn from the current study’s dataset, which includes over 100 product samples analyzed for linguistic, semiotic, and compositional indicators of greenwashing.

Additionally, advertisers increasingly incorporate religious and cultural signifiers to enhance the perceived authenticity of eco-claims. Phrases such as “halal purity,” “Prophetic blend,” or “sunnat-based organic oils” blend environmental language with Islamic ethics to gain consumer trust (Jamil & Mehmood, 2020). While such discourse aligns with local values, its use without verification introduces ethical concerns, particularly when spiritual legitimacy is invoked to mask environmentally questionable practices.

These examples underscore the intricate dynamics of green marketing in Pakistan, where sincerity and symbolic manipulation often coexist. Insights drawn from both existing literature and the current study’s dataset affirm the need for comprehensive analytical tools to examine such phenomena. The proposed Tanz Model of Eco-Critical Discourse offers one such framework, facilitating the integrated evaluation of linguistic, semiotic, and compositional elements in eco-advertising. Moving forward, there remains a strong need for further empirical research and policy advocacy to promote transparent, accountable, and culturally respectful green marketing practices in Pakistan.

2.18 Challenges and Future Directions

Environmental advertising in Pakistan presents both challenges and opportunities. With growing awareness of environmental concerns and an expanding market for sustainable products (Sabir et al., 2014; Yasin et al., 2023), eco-advertisers must address diverse consumer attitudes and behaviors. Studies indicate that Pakistani consumers are becoming increasingly aware of environmental issues and are more receptive to green advertising messages (Sabir et al., 2014; Yasin et al., 2023). Despite this progress, advertisers often struggle to effectively convey environmental benefits while avoiding the pitfalls of greenwashing (Matthes, 2019), which underscores the need for innovative strategies to engage consumers more effectively.

To enhance the effectiveness of eco-advertising, future efforts could focus on leveraging audiovisual media, utilizing behavioral metrics, and assessing the long-term impacts of environmental campaigns (Matthes, 2019). Furthermore, understanding key drivers of green purchasing behavior, such as eco-literacy, personal values, and consumer perceptions, is essential for developing successful green marketing strategies (Yasin et al., 2023). As Pakistan continues to face environmental challenges and growing corporate social responsibility initiatives (Sajjad & Eweje, 2014), eco-advertisers must adapt to align with the evolving expectations of environmentally aware consumers. To address these evolving dynamics, eco-advertisers must also consider the broader socio-political and cultural factors that influence green marketing efforts in Pakistan, paving the way for strategies that resonate with diverse consumer segments.

2.19 Conclusion

Green marketing and advertising in Pakistan operate within a challenging yet promising landscape shaped by socio-political and cultural dynamics. A major obstacle to its progress is the lack of consumer awareness and minimal government support, which hinders the adoption of eco-friendly practices (Siddique et al., 2013). Nevertheless, rising environmental consciousness, particularly among university students, shows a growing interest in sustainable products and practices (Sabir et al., 2014). Gender differences also play a role in shaping consumer responses to green advertising, with women more influenced by ethical considerations and men by quality-of-life improvements (Kaakeh et al., 2021). In sectors like fashion, green purchasing decisions are driven by factors such as trust, perceived control, social influence, and environmental awareness (Chen et al., 2020). To address existing challenges, companies should emphasize clear and honest communication about their eco-friendly initiatives, participate in community programs that enhance quality of life, and integrate ethical principles into their marketing strategies. These measures should be informed by consumer behavior patterns and cultural dynamics, which are critical to designing effective green advertising campaigns.

Recent studies on green marketing and eco-advertising in Pakistan highlight the interplay of consumer behavior, media, and cultural dynamics. While growing environmental awareness is influencing consumer preferences, challenges such as skepticism, greenwashing, and insufficient government support persist. Factors like eco-literacy, environmental concern, and effective media strategies are critical for fostering green purchasing behavior. Research underscores the importance of aligning global

sustainability standards with local socio-cultural contexts to enhance public trust and promote sustainable consumption. Analyzing product claims, advertisements, and ingredient lists can reveal misleading practices and improve transparency. This creates opportunities to leverage advanced technologies and educational interventions to empower consumers in identifying deceptive green claims.

Research suggests that distinguishing between truthful and deceptive green claims through language alone is a significant challenge. Consumers often find it difficult to differentiate between legitimate and misleading environmental claims, emphasizing the need for educational interventions (Fernandes et al., 2020). Although linguistic analysis holds potential for detecting deception, as deceivers tend to use language differently from truth-tellers (Burgoon et al., 2003), the complexity and sheer volume of sustainability disclosures make it especially difficult to identify greenwashing (Moodaley & Telukdarie, 2023). Recent advancements in artificial intelligence, particularly large language models (LLMs), show promise in analyzing intricate textual data in sustainability reports. However, domain-specific pre-training of LLMs may be required to enhance their ability to detect green claims and greenwashing (Moodaley & Telukdarie, 2023). Combining textual and visual components in educational interventions has proven effective in aiding consumers to identify deception in environmental claims (Fernandes et al., 2020), suggesting that multi-modal strategies could be useful in tackling this issue. Such approaches can complement the growing interest in analyzing eco-advertisements and sustainability disclosures within the Pakistani context.

A thorough review of the literature reveals a significant gap in the existing body of work on green discourse in Pakistan. While previous studies have examined the use of eco-advertisements in shaping consumer behavior and the impact of persuasive techniques like emotional appeals (Matthes, 2019), they have largely overlooked a critical aspect—the content and ingredients featured on product labels. Recent research on dietary sugars in eco-advertisements in Pakistan has shown that such ads employ persuasive techniques like positive framing and emotional appeals to influence consumption behaviors (Shahid et al., 2023). Current analyses often focus on broader rhetorical strategies, but there is insufficient attention paid to how the actual ingredients listed on products align with or contradict the claims made in these advertisements. This gap in research limits the understanding of how greenwashing manifests in these advertisements, particularly in the local context of Pakistan, where consumers are increasingly exposed to both global and locally-tailored eco-marketing campaigns. By combining semiotic

analysis with detailed ingredient scrutiny, our study aims to fill this void, offering a more comprehensive approach to uncovering misleading practices. Additionally, previous studies highlight the significant influence of green marketing practices on consumer preferences, especially in Pakistan's food sector, where students have been identified as a particularly susceptible group (Jafar et al., 2021). This research contributes to more transparent and responsible green advertising strategies in the region. This perspective is further supported by studies examining eco-discourses and their role in influencing public perceptions and environmental awareness.

Recent studies have examined eco-advertisements and green discourses in Pakistan, highlighting their role in shaping public perceptions and environmental awareness. Research by Tarar & Qusien (2019) reveals that environmental appeals in Pakistani advertisements often rely on shallow and deceptive tactics, leading to ineffective climate change communication. Meanwhile, efforts are being made to incorporate eco-friendly discourses into primary textbooks to foster greater awareness among young learners (Abbas & Rasheed, 2024). Additionally, eco-advertisements play a significant role in constructing positive narratives around dietary sugar consumption, utilizing persuasive techniques and emphasizing natural ingredients (Shahid et al., 2023). Media representation of climate change policies, such as the Clean Green Pakistan Policy, employs linguistic features like salience, metaphor, and framing to make ecological discourses appear natural and compelling (Nasir et al., 2022). These studies collectively highlight the critical need to examine eco-advertisements and green discourses in Pakistan to ensure more transparent communication and promote environmental sustainability and awareness. Such insights emphasize the importance of aligning green marketing strategies with both cultural dynamics and regulatory frameworks to drive sustainable consumer behavior.

Furthermore, the integration of cultural, social, and regional dynamics into eco-advertising strategies is essential to effectively engage diverse consumer segments in Pakistan. A focus on local relevance, combined with global sustainability standards, can help businesses address consumer skepticism while fostering environmentally responsible behaviors. Policymakers and regulatory bodies can leverage these insights to enhance monitoring frameworks and encourage ethical marketing practices that support the broader goals of environmental sustainability. Ultimately, this research underscores the importance of collaboration between businesses, regulators, and consumers to foster a

green economy in Pakistan. This collaborative effort between stakeholders can ultimately contribute to a thriving green economy in Pakistan.

CHAPTER 3

THEORETICAL FRAMEWORK

This chapter outlines the theoretical and methodological foundation of the study. It describes the framework used for evaluating the reliability and validity of the research, the stages of the process, and how these were incorporated into the overall structure of the inquiry. The study adopts a *mixed-methods approach*, combining both qualitative and quantitative techniques to comprehensively explore the phenomenon of greenwashing in eco-advertisements. This methodological choice is supported by the theoretical orientation of the study and is grounded in an extensive review of literature.

Mixed-methods research integrates qualitative and quantitative strategies to provide a holistic understanding of complex social issues (Jang et al, 2014). This approach aligns with the research objective of identifying greenwashing strategies in language and semiotics, while also verifying product credibility through ingredient analysis. It ensures the capture of both surface-level trends and deeper interpretive insights. The small-scale *corpus* of 110 product labels served as the primary dataset, enabling both statistical frequency analysis of key green terms and thematic coding of claims, metaphors, visuals, and compliance.

The chapter details the procedural framework of the study, including the design, population, sampling techniques, and analytical procedures. Several research questions were formulated to guide the study using this mixed-method strategy. The approach also incorporates a critical theoretical stance, which shapes the model development and underpins the analytical tools applied throughout the research.

3.1 Research Philosophy Requirement

The research philosophy expresses the key assumptions that shape the researcher's perspective and guide methodological choices. In this study, the philosophy is rooted in critical theory, which emphasizes the deconstruction of dominant ideologies and the exposure of power dynamics embedded in discourse. Critical theory is particularly relevant in eco-linguistic and environmental communication research, where marketing practices often present constructed realities through persuasive language and imagery to influence consumer behavior (Williams, 2024; Yılmaz & Baybars, 2022).

By adopting a critical eco-linguistic perspective, the study interrogates the disparity between green claims and actual product compositions, revealing how language and visuals may be used to sustain corporate power under the guise of environmentalism. This approach allows the researcher not only to analyze what is being said but also to question why it is being said, who benefits from it, and who may be misled. In doing so, the research goes beyond surface-level analysis and situates greenwashing as a discourse practice shaped by economic interests and institutional ideologies.

Furthermore, the study is situated within the domain of eco-critical discourse analysis (ECDA), drawing on linguistic, semiotic, and ideological tools to critique consumer-oriented green narratives. By treating product labels as multimodal texts—where words, visuals, colors, shapes, and typographic choices work together—the study captures how greenwashing is communicated not just verbally, but visually and symbolically as well.

This philosophical grounding ensures analytical transparency and enables a critical, ethical investigation that empowers both consumers and scholars to engage meaningfully with the sustainability discourse in marketing. It also justifies the use of a custom analytical model, later detailed as the Tanz Model of Eco-Critical Discourse (TMED), which incorporates linguistic, semiotic, and empirical analysis to assess the authenticity and impact of green claims more comprehensively.

3.2 The Development of Research Model

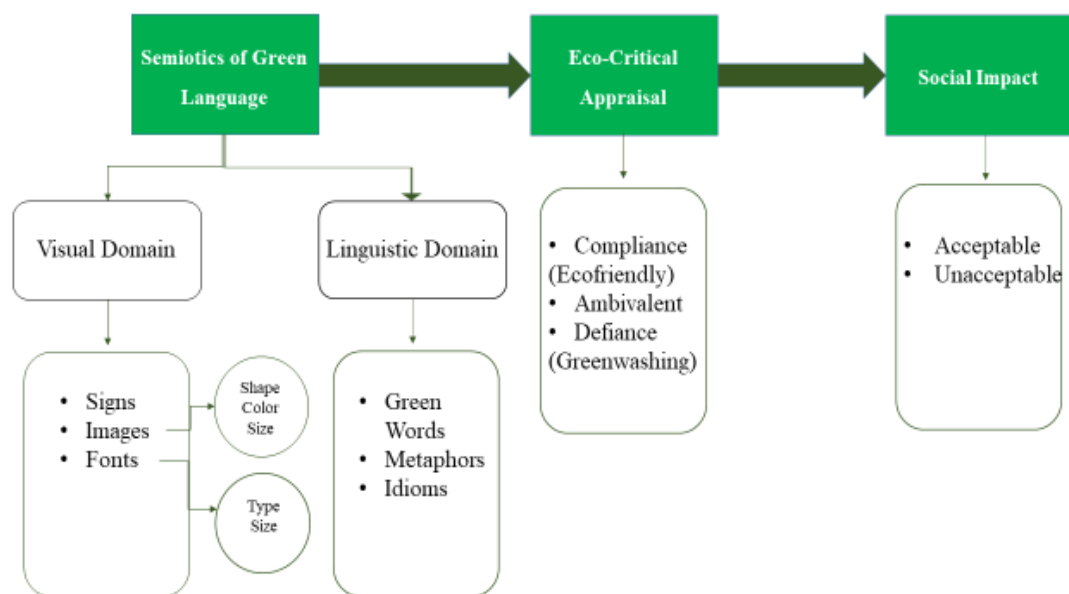
To address the complexities of greenwashing in eco-advertising, this study proposes a new analytical model: the Tanz Model of Eco-Critical Discourse (TMED, 2025), developed specifically by the researcher. While several existing frameworks—such as the Greenwashing Index (TerraChoice Environmental Marketing, 2009), Eco-Critical Discourse Analysis (Stibbe, 2014), and eco-labeling models (Mak & Crane, 2009), offer valuable insights, they tend to focus on either textual, visual, or regulatory aspects in isolation. For example, Eco-Critical Discourse Analysis provides valuable tools for examining ideological meanings in environmental discourse, yet it does not extend to the semiotic dimension of packaging design or to the empirical verification of green claims. Likewise, multimodal frameworks are effective in analyzing how text and visuals interact, but they do not engage with the factual accuracy of product compositions or their broader social implications. These limitations highlight a clear gap: existing approaches

do not provide an integrated lens that combines linguistic and semiotic analysis with verification of product claims and evaluation of social perception.

In response to this gap, the TMED model draws upon foundational theories from eco-linguistics, visual semiotics (Kress & van Leeuwen, 2006), and critical discourse analysis to offer a more comprehensive and contextually grounded framework. By bridging language, imagery, factual composition, and public impact, the TMED enables a more nuanced and ethical analysis of how environmental claims are constructed and potentially influenced, across multiple modes. This innovation strengthens the ability to detect greenwashing and promotes more transparent, accountable environmental communication.

Figure 3.1

Introducing Tanz Model of Eco-Critical Discourse (TMED)



Note. The Tanz Model of Eco-Critical Discourse (TMED). This model illustrates a three-phase analytical framework developed by the researcher to examine greenwashing strategies in eco-advertisements through semiotic, linguistic, and eco-critical discourse analysis, including social impact assessment.

The TMED is designed to address the gap left by existing frameworks by providing a comprehensive and integrated approach to analyzing green claims in eco-advertisements. This model is structured into three main phases based on four analytical

components, each contributing to a deeper understanding of how greenwashing operates within product discourse. First two components are under first phase:

3.2.1 Phase 1: Semiotics of Green Language

The first component focuses on the *visual domain*, examining shapes, colors, images, and fonts used in packaging and advertisements. This includes a typographic analysis (font style, size, hierarchy) and the symbolic meaning of imagery (e.g., leaves, animals, organic textures), following the principles of social semiotics (Kress & van Leeuwen, 2006). The aim is to uncover how visual signs are used to create perceptions of eco-friendliness, health, and trust.

Simultaneously, the *linguistic domain* is critically analyzed to assess the textual strategies used to construct green narratives. This includes identifying green words, idioms, and metaphors commonly used to imply naturalness, purity, or sustainability. The analysis draws from principles of Critical Discourse Analysis (CDA) to assess whether these claims are substantiated or misleading.

3.2.2 Phase 2: Eco-Critical Appraisal

In this phase, the model incorporates *ingredient and claim compliance analysis*. Advertised claims are verified against actual product composition (as listed on the packaging or nutritional labels). Claims are then categorized as: *Compliant* (genuine and verifiable), *Ambivalent* (vague or partially misleading), or *Greenwashing* (misleading or false based on evidence).

3.2.3 Phase 3: Social Impact

Lastly, the model assesses *social acceptance* by observing how consumers engage with these products in real-world contexts. This includes: Popularity of the products on social media (e.g., number of followers or likes on product pages), and Visibility and placement of the products in major retail outlets (e.g., supermarkets, malls).

Together, these four components allow for a *multimodal and mixed-method analysis* of green advertising, combining qualitative interpretation with empirical validation. The TMED provides a practical, theory-informed, and ethically grounded framework for exposing greenwashing strategies in consumer products.

3.3 Population and Sampling

This study employs a cross-sectional content analysis methodology to examine the labels of various products available in Pakistan. By collecting data from these labels at a single point in time, the research aims to assess the authenticity of green claims and identify instances of greenwashing. The analysis focuses on key elements such as the environmental claims made, the ingredients listed, and the overall presentation of the products. This approach enables a comprehensive understanding of how companies communicate their sustainability efforts and the extent to which these claims align with actual practices. The dataset is treated as a *small-scale multimodal corpus*, representing diverse textual and visual strategies used in eco-advertisements.

In this study, the product labels collected across different industries serve as a corpus—a systematically compiled body of multimodal texts intended for linguistic and semiotic analysis. As the research investigates the intersection of language, imagery, and composition in green marketing, this corpus facilitates a detailed and replicable exploration of discursive patterns and greenwashing strategies.

3.3.1 Sample Type

The sample comprises a small-scale corpus derived from written and visual texts found on product packaging. In corpus linguistics, a corpus refers to a systematically compiled collection of authentic language data (Baker, 2006), and in this case, the selected product labels serve as a legitimate and representative source of eco-advertising discourse. The corpus includes static images, ingredient lists, and marketing texts printed on packages. The data was compiled from a variety of industries, including health care and food/beverages, ensuring a rich and diverse dataset. This corpus allows for in-depth analysis of both language use and semiotic elements, forming the foundation for the study's multimodal framework as represented in the Tanz Model of Eco-Critical Discourse (TMED).

3.3.2 Sampling Technique

The research employed stratified random sampling to identify product labels from the food, beverage, and personal care industries that utilize green language and health claims. Stratified sampling ensures unbiased representation by dividing the population into distinct strata based on product categories. Each category was sampled randomly to

maintain proportionality. This ensured coverage of all major product types making green claims, enhancing the corpus's representativeness and analytical depth (Thompson, 2012).

3.3.3 Sampling Criteria

Products were selected based on two criteria: (1) the presence of green claims related to health, sustainability, or environmental friendliness; and (2) a visible level of social acceptance. To establish social impact, the study considered products with either *50,000 or more followers on social media platforms* or those *prominently displayed in major departmental stores*. This indirect method of assessing consumer engagement and brand visibility was used *instead of surveys*, as it reflects organic, real-world acceptance across public and retail spaces. Moreover, this method aligns with the eco-critical discourse model (TMED), which examines the broader socio-ideological impact through observable patterns in availability and popularity.

Note. Instead of conducting consumer surveys, which may introduce subjectivity or sampling limitations, the study relied on publicly observable metrics such as digital presence and physical visibility. This approach aligns with TMED's third phase, which focuses on actual market penetration and consumer trust inferred through engagement and distribution indicators.

3.3.4 Sample Representativeness

The domain of eco-advertisement is extensive, with product labels serving as a primary medium for marketing and selling products. As noted by Rudani (2009), "A label means a strip/piece of paper giving detail fixed on a thing... it is an advertising tool, too" (p. 162). Labels are not merely functional; they are strategic instruments that convey essential information. The textual and visual language of product labels plays a critical role in shaping consumer perceptions and driving purchasing decisions. By focusing on this textual-visual material, the research captures the multimodal nature of eco-advertising and its persuasive power in consumer culture.

3.3.5 Sample Size

The sample size is divided into two main categories: Health Care (health supplements, skincare, hair care, and massage oils) and Food and Beverages (energy drinks, fruit juices, cooking oils, honey, dairy products, cereals, and herbal teas). Each subcategory includes ten products, enabling a focused analysis of green marketing practices across diverse industries. The division is showing in the following table:

Table 3.1*Sample Size Distribution*

Serial No.	Categories	Sub-Categories	No. of Products
1	Health Care	Health supplements	10
		Skin care	10
		Hair Care	10
		Massage oils	10
2	Food and Beverages	Energy drinks	10
		Fruit juices	10
		Ghee and cooking oils	10
		Honey	10
		Dairy products	10
		Grains and cereals	10
		Herbal Teas	10
3	Total		110

Note. The study categorized the sampled products into two primary categories: Health Care and Food and Beverages, with a total of 110 products analyzed. Within the Health Care category, the sub-categories included health supplements, skin care products, hair care, and massage oils, with each sub-category containing ten products. Similarly, the Food and Beverages category comprised various sub-categories, including energy drinks, fruit juices, ghee and cooking oils, honey, dairy products, grains and cereals, and herbal teas, with ten products represented in each sub-category as well. This systematic categorization allowed for a comprehensive analysis of eco-claims across different product types, facilitating insights into the marketing strategies and language used within the eco-advertisement landscape in Pakistan.

3.4 Corpus Annotation and Software Use

AntConc (Anthony, 2023), a freeware corpus analysis toolkit, was employed to analyze the textual data from the product labels. This tool enabled the extraction and frequency analysis of commonly used green keywords such as *natural*, *organic*, *fresh*, *herbal*, and *pure*. These frequently occurring lexical items were then coded and categorized to identify linguistic patterns associated with greenwashing. The software-assisted corpus approach ensured a systematic and replicable process for textual analysis, enhancing the reliability and validity of the linguistic phase of the study.

CHAPTER 4

DATA ANALYSIS

The data analysis phase focuses on evaluating the first component of the Tanz Model of Eco-critical Discourse (TMED, 2025), specifically the Semiotic Analysis of Green Language. This phase involves a detailed examination of the visual and linguistic elements found on product labels within two major categories: healthcare (including health supplements, skincare, hair care, and massage oils) and food and beverages (such as energy drinks, fruit juices, ghee and cooking oils, honey, dairy products, grains and cereals, and herbal teas). Ten products from each category are analyzed to ensure a comprehensive review. In the visual domain, the analysis includes the study of signs, images, shapes, colors, and font styles and sizes used on product labels. Meanwhile, in the linguistic domain, the focus is on identifying green words, metaphors, and idioms employed in the labeling. This dual analysis provides insights into how visual and textual features are used to convey eco-friendly messages and influence consumer perceptions. The analysis begins with the healthcare category, delving into the semiotic and linguistic features of products in this domain.

4.1 Health Care

The healthcare category encompasses a diverse range of products, including health supplements, skincare, hair care, and massage oils, all of which often utilize green marketing to appeal to environmentally conscious consumers. These products frequently claim to promote health and well-being while highlighting their eco-friendly attributes through both visual and linguistic cues on their labels. In the visual domain, elements such as colors, images, and font styles are strategically used to convey natural and sustainable themes. Similarly, in the linguistic domain, the use of green words, metaphors, and idioms plays a key role in reinforcing these claims. By analyzing the semiotic and linguistic aspects of healthcare product labels, this study aims to uncover how these elements are employed to construct an eco-friendly image and influence consumer perceptions. This analysis serves as a foundation for understanding the broader trends in greenwashing and eco-advertising within the healthcare sector.

4.1.1 Health Supplements

The health supplements category includes a variety of products designed to support nutrition, growth, and overall well-being. This study focuses on ten widely recognized supplements: Bourn Vita, Complan, Ensure, Horlicks, Pediasure, Moringa BFGrow3, Boost, Ovaltine, Sustagen, and Serious Mass. These products cater to diverse consumer needs, ranging from energy and immune support to dietary enhancement and child development. By incorporating eco-friendly claims into their packaging and marketing, these supplements often attempt to align with the rising consumer demand for sustainable and health-conscious choices. Through the analysis of both visual and linguistic elements on their labels, this research investigates how these products communicate their nutritional and environmental values, offering insights into green marketing practices within the health supplements sector. The following figure represents the front labels of these ten health supplements:

Figure 4.1

Health Supplements



Note. The image shows popular healthcare nutrition and supplement brands analyzed for semiotic and linguistic elements. Image sourced from official product websites and packaging (2025).

4.1.1.1 Semiotic Analysis of Health Supplements

This section analyzes the semiotic strategies employed on the packaging of health supplement products. Drawing on the first phase of the Tanz Model of Eco-Critical Discourse (TMED), it focuses on visual signs, symbols, and icons that construct an image of naturalness, health, and environmental responsibility.

The analysis reveals that visual signs and symbols on health supplement packaging—such as icons, motifs, and imagery—are strategically used to construct eco-health narratives. Drawing on Barthes' concept of myth (1972), these elements are shown to become naturalized, communicating deeper cultural meanings related to purity, vitality, and environmental care. In the case of health supplements such as *Bournvita*, *Complan*, *Ensure*, *Horlicks*, *Pediasure*, *Moringa BF3*, *Boost*, *Ovaltine*, *Sustagen*, and *Serious Mass*, packaging often features symbols and imagery associated with health, vitality, and nature. For instance, icons like bones (for vitamin D), lightning bolts (for energy), and green leaves subtly frame the product as health-enhancing and naturally beneficial. While these semiotic cues resonate with consumer values around wellness and sustainability, they can sometimes obscure the processed nature of the product or its artificial ingredients. Products like *Complan* and *Pediasure*, for example, use vibrant fruit images, clouds, and vanilla flowers to create a perception of naturalness and purity. Similarly, the presence of elements like wheat symbols or *low GI certified* tags enhances the health-conscious appeal. As Kress and van Leeuwen (2006) suggest, visual grammar plays a key role in shaping viewer interpretation, and in these cases, the eco-visual discourse helps align brand messaging with consumer expectations. These findings highlight how health-related packaging practices rely on culturally embedded semiotic codes to construct positive brand narratives, which may at times present an idealized version of the product's ecological and nutritional profile.

Furthermore, the packaging shapes of healthcare products such as *Bournvita*, *Complan*, *Ensure*, *Horlicks*, *Pediasure*, *Moringa BF3*, *Boost*, *Ovaltine*, *Sustagen*, and *Serious Mass* demonstrate a calculated use of visual semiotics to enhance consumer appeal while subtly diverting attention from ecological concerns. These ergonomic, geometric, and aesthetically pleasing designs often serve dual purposes: improving product functionality and aligning visually with narratives of health, vitality, and naturalness.

For instance, the hourglass-shaped container of *Bournvita* promotes ease of use and brand differentiation, yet its plastic composition may detract from any implicit environmental messaging. *Complan*'s rectangular box, although efficient and familiar, reflects industrial uniformity more than ecological harmony, reinforcing processed consumption patterns over sustainable food traditions. *Ensure*'s rounded tin design, coupled with visuals such as a glass of milk and spoonful of powder, suggests completeness and nourishment. However, these symbolic cues coexist with synthetic flavoring and non-recyclable components like plastic lids—raising questions about the environmental integrity of the product's presentation.

Similarly, *Horlicks* uses a cylindrical container with vertically aligned health icons, blending conventional imagery with modern wellness cues, yet offering little indication of sustainable material use. *Pediasure*'s soft-edged design attempts to humanize its industrial packaging, but reliance on plastics complicates its alignment with eco-conscious branding. *Moringa BF3* employs a paperboard box that may visually suggest eco-friendliness, yet the environmental impact depends largely on production sourcing and post-consumer waste handling—areas often omitted from packaging narratives.

Meanwhile, *Boost* and *Ovaltine* utilize curved forms and glass jars to evoke natural tradition and product purity, although the inclusion of plastic elements dilutes these associations. *Sustagen* features circular imagery of bowls and spoons to imply wholeness and dietary balance, yet its packaging—a metal tin sealed with plastic—presents recycling and biodegradability challenges. *Serious Mass* adopts a rectangular bag with green base elements that visually connect nutritional promises to environmental consciousness, though without clear ecological substantiation.

Across these examples, product shapes and structural designs function not only as marketing tools but also as semiotic cues that project narratives of health and eco-responsibility. Yet these designs frequently obscure the environmental cost of production and disposal, reflecting a broader pattern of greenwashing through visual form.

Color schemes employed in the packaging of healthcare supplements often serve as persuasive semiotic tools to align products with health, purity, and environmental consciousness. As Singh (2006) highlights, specific colors in marketing evoke culturally embedded associations—green suggests nature and wellness, blue conveys trust, and

white implies purity. *Bournvita's* use of energetic orange paired with purple sophistication attracts attention while subtly diverting focus from its industrial composition. Similarly, *Complan's* combination of pink, red, and green creates a sensory appeal linked to sweetness and freshness, while white enhances perceptions of naturalness—despite the processed reality of the product.

Ensure's blue and white color palette reflects trust and cleanliness, reinforced by milk imagery to suggest natural completeness, even though synthetic additives are involved. *Horlicks* blends multiple hues like green, orange, and purple to showcase diverse health benefits while diminishing attention to environmental implications. *Pediasure's* dominance of blue communicates reliability, complemented by green accents that suggest ethical practices such as being non-GMO, though these claims may eclipse other ecological concerns.

Moringa BF3 employs teal and white to symbolize sustainability and purity, enhanced with red and yellow that signal care and premium quality. *Boost* integrates green cues to emphasize fiber and health, alongside red for energy—visually promoting vitality while concealing packaging-related environmental issues. *Ovaltine's* warm yellow and orange tones foster a sense of family wellness, but subtly shift attention away from the product's processed ingredients. Similarly, *Sustagen's* calm blues and greens, paired with soft whites, reflect trust and naturalness, although its heavily industrial packaging remains unaddressed. *Serious Mass* adopts a sleek black base with green and gold accents to project professionalism, health, and quality, yet the visual sophistication overshadows its synthetic and non-eco components.

Overall, these color strategies participate in what could be seen as greenwashing: a deliberate use of visual symbolism to suggest environmental responsibility and health alignment, despite contradictions in material content or packaging sustainability.

The size and structural design of healthcare product packaging significantly influence consumer perceptions, serving as semiotic tools in greenwashing strategies that foreground marketing appeal while obscuring environmental concerns. For instance, *Bournvita's* voluminous container suggests abundance and vitality, employing bold hues and playful visuals to attract both parents and children. However, these communicative choices distract from the product's processed composition and the ecological footprint of its plastic packaging. Similarly, *Complan's* compact rectangular box symbolizes

portability and industrial efficiency through its smooth surfaces and sharp edges—traits that subtly reinforce mass production and standardized consumption rather than organic authenticity. Although the material is technically recyclable, the overall design reflects resource-intensive globalized food systems that privilege convenience over sustainability.

Ensure's 400g tin, balanced in size for practical use, uses visuals like a glass of milk and vanilla flower to suggest purity and naturalness, but this is undermined by fine print noting artificial flavoring—revealing a discord between imagery and ingredient transparency. *Horlicks'* 500g cylindrical jar leverages a large wheat graphic to evoke nourishment and traditional wholesomeness, yet this overshadows its processed health claims and reliance on non-renewable packaging. *Pediasure's* use of a giraffe mascot and bold *non-GMO* labelling enhances its child-friendly and ethical appeal, while reducing visibility of detailed nutritional or ecological information—effectively redirecting attention from sustainability issues.

Likewise, *Moringa BF3* utilizes a rectangular box with geometric motifs—circles and triangles—that frame its DHA and GOS claims, alongside imagery of a cartoon baby and butterfly, invoking nature and maternal care. These symbols, however, risk creating a misleading eco-conscious image without addressing actual environmental impact. *Boost's* ergonomic bottle includes a green triangular segment to suggest eco-friendliness and fiber content, while visually foregrounding its chocolate flavor—obscuring its environmental costs. *Ovaltine's* oversized orange logo, glowing sun imagery, and wheat iconography generate a wholesome, family-centered impression, despite minimal space allotted to nutritional and ecological information. *Sustagen* capitalizes on medical credibility by highlighting *hospital formula* in large ovals, with secondary natural visuals like strawberries and spoons, contributing to an impression of healthfulness while downplaying the processed reality. *Serious Mass* emphasizes its brand and bulk benefits through its large title label, whereas the smaller sustainability claims and plastic rectangular packaging conceal its environmental drawbacks.

Collectively, these design elements reflect a deliberate use of size, shape, and spatial hierarchy to craft visual narratives of health, care, and environmental responsibility—while often masking the products' actual ecological and material costs. This strategic influence aligns with broader greenwashing practices in the consumer healthcare industry.

Similarly, the typography—font types, sizes, and arrangements—used across these healthcare product labels plays a significant role in constructing consumer perceptions. These design elements often support greenwashing strategies by highlighting notions of health, trust, and naturalness, while subtly minimizing the visibility of processed or environmentally impactful aspects. *Bournvita*, for instance, uses large, playful, multicolored lettering to attract children, while the smaller, classic script of *Cadbury* evokes brand legacy and trust. The clean sans-serif fonts used for nutrient details enhance readability and project clarity, yet this structured layout may obscure the product's industrial composition. *Complan* employs a bold logo with a stylized swirl in the *C* to soften its industrial impression, while the alternating serif and sans-serif fonts create a visual hierarchy. All-caps slogans like *Extra Growing Power* reinforce natural growth associations, drawing attention away from processed ingredients.

Ensure's bold, sans-serif brand name projects trust and reliability, while smaller font sizes for terms like *artificial flavor* are visually downplayed next to images such as a vanilla flower, giving an illusion of naturalness. *Horlicks* leverages a large, impactful logo alongside keywords like *Taller*, *Stronger*, and *Sharper* in bold fonts, reinforcing health benefits while using small text for flavor details to shift focus away from less favorable elements. *Pediasure* emphasizes branding through a prominent *PediaSure* font, with bold claims like *Grow & Gain* and *Immune Support* prioritized over detailed nutritional disclosures.

Moringa BF3's strong typographic emphasis on *BF-3* (Boron Trifluoride) supports a science-backed image, while complex information is rendered in smaller, less readable fonts, reducing consumer scrutiny. *Boost*'s large, high-contrast logo communicates energy and vitality, but smaller nutritional text fades into the background, privileging brand over transparency. *Ovaltine* combines bold sans-serif fonts for the product name with cursive elements like *malted milk* to evoke warmth and tradition, crafting a wholesome family image that obscures processing. *Sustagen* employs bold, uppercase fonts to convey medical reliability, while softer, rounded fonts enhance consumer appeal, masking the ecological footprint of the packaging. Similarly, *Serious Mass* uses a bold, heavy font for product identity to suggest strength, while less prominent text like *artificially flavored* appears next to oversized strawberry imagery, projecting natural associations.

Across these products, typography is deliberately used to organize attention, build trust, and convey naturalness—often aligning with greenwashing practices that prioritize persuasive visuals over product transparency.

4.1.1.2 Linguistic Analysis of Health Supplements

In continuation of the model, this section explores the second phase of TMED by examining the linguistic strategies used in the product labeling. It analyzes how specific vocabulary, claims, and lexical patterns are employed to frame these supplements as eco-conscious, health-enhancing, and naturally formulated, even when the actual composition may not align with such portrayals.

The language and imagery used across these ten healthcare product labels strategically employ green words, metaphors, and idioms to construct perceptions of health, naturalness, and environmental responsibility, often downplaying their processed or less eco-friendly characteristics. *Bournvita* uses terms like *pro-health*, *Vita*, and *strong* as green words, evoking vitality and wellness. The imagery of wheat stalks and a jumping figure metaphorically links the product to natural energy and nourishment, while the tagline *tann ki shakti, mann ki shakti* reflects an eco-linguistic emphasis on holistic well-being, even though the product's ingredients may not fully align with this representation. *Complan* employs *23 vital nutrients* and *extra growing power* to suggest essential, plant-like growth, while the small green leaf on the strawberry enhances natural appeal despite the product's industrial formulation. The subtle use of British English spelling (*flavour*) adds cultural authenticity but shifts focus away from environmental concerns.

Ensure's use of *original* implies authenticity, while the prominently featured vanilla flower creates a metaphor for naturalness, which stands in contrast to the smaller *artificial flavor* label—conveying mixed signals about ingredient origin. *Horlicks* positions *growth* as a central metaphor for natural development, with phrases like *taller*, *stronger*, *sharper* evoking plant-like improvement. References to *bone*, *muscle*, and *blood* establish symbolic ties to bodily health, though they may not reflect the ecological dimension. *PediaSure* emphasizes *non-GMO* and *natural & artificial flavor*, amplifying natural associations while deemphasizing processed elements. Metaphoric phrases like *with immune support* create impressions of eco-aligned health benefits, though environmental claims remain implicit. *Clinically proven to help kids grow* reinforces health-centered marketing without connecting explicitly to sustainability.

Moringa BF3 uses terms like *fortified* and *growing-up formula* to resonate with parental priorities, while scientific expressions such as *Bifidus factor* and *DHA* bolster credibility without detailing ecological impact. *Boost* features *with fiber* as a green word implying plant-based benefits, and *boost* as a metaphor for natural energy, even if stemming from sugars or additives. Phrases like *balanced nutritional drink* and dynamic liquid imagery metaphorically suggest freshness and vitality. *Ovaltine's* use of *malted milk* and *complete nutrition*, along with visuals of wheat and milk splashes, cultivate impressions of natural origin, although the product is processed.

Sustagen highlights phrases like *nutritionally complete* and *supports muscle, energy, and bone health*, which serve as green words and metaphors for structural well-being and vitality, subtly diverting attention from environmental considerations. Finally, *Serious Mass* uses phrases like *high protein* and *muscle building* as symbols of strength, while energy-laden words like *boost* and *fuel* evoke vitality. The oversized *strawberry* text juxtaposed with smaller *artificially flavored* cues may amplify impressions of naturalness that are not fully representative. Collectively, these strategies illustrate how linguistic and visual elements can be used to align branding with ecological and health values, even when product composition and environmental footprint suggest otherwise.

4.1.2 Skin Care

The skincare category includes a diverse selection of ten products designed to address various skin concerns, including cleansing, hydration, and fairness. This category features products like Himalaya Purifying Neem Face Wash, Derma Shine Tea Tree Acne Face Wash, and Vibrant Beauty Lemon Purifying Face Wash, which target impurities and acne-prone skin. Products such as CoNatural Hydrating Aloe Vera Face Wash and Eveline Face Wash focus on gentle hydration and nourishment. Additionally, herbal beauty creams like Seven Herbal Beauty Cream and Soft Touch Massage Cream Herbal emphasize natural and organic formulations. Products such as Fair & Lovely Herbal Care Glowing Fairness Cream, Esfolio Green Herb Sun Cream, and Hollywood Style Whitening Massage Cream cater to skin brightening and sun protection needs. This selection provides a comprehensive look at the range of skincare solutions available, with a particular focus on herbal and natural ingredients. The following are the image of front labels of these ten skin care products:

Figure 4.2*Skin Care*

Note. This figure shows the packaging of selected skincare products such as face washes, creams, and sun blocks that use natural imagery, herbal symbols, or green coloring to suggest environmental responsibility.

4.1.2.1 Semiotic Analysis of Skin Care Products

This section analyzes the semiotic choices made in the packaging of skincare products, building on the first phase of the Tanz Model of Eco-Critical Discourse (TMED). It examines how visuals—such as color palettes, icons, natural imagery, and design layout—are used to convey impressions of purity, herbal authenticity, and eco-consciousness.

The semiotic landscape of skincare packaging reveals a deliberate use of leaf symbols, floral imagery, and earthy tones to align the products with nature-centric values. Drawing on Barthes' concept of myth (1972), these visuals become naturalized signs that embed deeper cultural meanings around health, beauty, and ecological care. These strategies often foreground visual and linguistic cues associated with environmental responsibility, even when the underlying sustainability practices remain unclear. For

instance, the *Himalaya Purifying Neem Face Wash* features symbols such as the Himalaya mountain logo, Neem leaf imagery, and *soap-free* claims to evoke purity and herbal authenticity. However, these signs may contrast with the product's processed formulation, raising questions about the depth of its natural positioning.

Similarly, *Derma Shine Tea Tree Face Wash* incorporates green leaves and terms like *herbal innovation* to convey a plant-based identity, although the exact botanical composition is not specified. *Vibrant Lemon Purifying Face Wash* employs eco-associated terms like *organic* and includes the recycling symbol, which aligns with sustainable branding. Yet, the absence of concrete information on sourcing or production limits the transparency of such claims. *Eveline Facial Wash Gel* features phrases such as *100% bio aloe-vera* alongside aloe visuals to reinforce a sustainable and skin-friendly image, though the ecological scope of its ingredients and packaging may be more limited than suggested.

The branding of *CoNatural Hydrating Aloe Vera Face Wash*, including terms like *pH balanced* and a minimalistic label design, supports a narrative of eco-friendliness. However, without specific indicators of environmental practices, this may reflect aesthetic sustainability more than verifiable impact. *Seven Herbal Beauty Cream* presents symbols like aloe vera, honey, and sandalwood alongside *pure herbs* claims, which evoke natural wellness, though they may create a simplified perception of the product's composition. *Soft Touch Massage Cream Herbal* uses green leaves and herbal signifiers to reinforce its natural appeal, but detailed substantiation of eco-friendly practices is not prominently available.

Fair & Lovely Herbal Care integrates herbal imagery and the phrase *herbal care* to promote a nature-aligned identity, while simultaneously using transformation visuals that reinforce problematic beauty ideals. This juxtaposition highlights the complex interplay between natural symbolism and cultural narratives of fairness. Likewise, *Esfolito Green Herb Sun Cream* uses a sun icon and *6 herb extracts complex* to project a health-focused and botanical image, although synthetic elements are also present. Finally, *Hollywood Style Whitening Massage Cream* incorporates floral imagery and green accents to support claims of purity and care, while also invoking fairness-related messages that may not align with inclusive or sustainability-oriented values.

Across these products, a range of visual cues—green color palettes, herbal icons, and eco-linguistic expressions—are strategically deployed to construct an impression of naturalness and sustainability. These choices reflect broader market trends that emphasize

environmental alignment, yet they also demonstrate the importance of critically assessing the extent to which such branding reflects actual eco-conscious practices.

Also, the shapes and structural design elements of the ten skincare products contribute significantly to the construction of an eco-conscious brand image. This aligns with the first phase of the Tanz Model of Eco-Critical Discourse (TMED), which focuses on semiotic strategies that shape consumer perception. The *Himalaya Purifying Neem Face Wash* adopts a practical tube form paired with a green cap and neem leaf imagery, suggesting purity and ecological care; however, its plastic material introduces potential contradictions regarding environmental impact. Similarly, *Derma Shine Tea Tree Acne Face Wash* employs a conventional tube shape with droplet imagery, subtly associating the product with natural oils and gentleness. *Vibrant Beauty Lemon Purifying Face Wash* uses circular lemon slice visuals and a dominant rectangular label to reinforce its natural positioning, though the packaging lacks explicit sustainability markers. *Eveline Facial Wash Gel* incorporates curved, organic lines and aloe vera visuals to imply a botanical essence, enhancing its green appeal through design language. *CoNatural Hydrating Aloe Vera Face Wash* presents a minimalist tube with soft curves and a centered aloe motif, reinforcing purity while relying on conventional materials.

Seven Herbal Beauty Cream organizes plant-based symbols in circular frames, promoting a sense of natural integrity through orderly presentation, while *Soft Touch Massage Cream Herbal* adopts a rounded jar and oval gold label to suggest nourishment and balance. These shapes align with nature-inspired aesthetics, though material composition is not always clearly stated. *Fair & Lovely Herbal Care Glowing Fairness Cream* uses flowing, DNA-like curves and floral imagery to blend notions of nature and science, reinforcing claims of herbal efficacy. *Esfolio Green Herb Sun Cream* employs rounded contours and sun-themed icons, encouraging perceptions of natural skin protection, while *Hollywood Style Whitening Massage Cream* uses soft-edged packaging and green floral motifs to suggest harmony and nature-derived beauty. Collectively, these design choices use visual cues—such as curved lines, circular symbols, and soft forms—to reinforce eco-conscious branding. While such elements enhance aesthetic and symbolic appeal, they may not always reflect the full extent of the products' environmental sustainability, highlighting a semiotic tension between visual representation and ecological substance.

Continuing the visual semiotic exploration, the color schemes of these ten skincare products play a pivotal role in reinforcing greenwashing narratives by

constructing visual associations with eco-friendliness, purity, and natural wellness—often without substantive evidence to support these claims. The *Himalaya Purifying Neem Face Wash* combines a predominantly white background, symbolizing cleanliness, with green accents that evoke nature and herbal authenticity; an orange underline adds vitality, subtly diverting attention from the synthetic components in the formulation. *Derma Shine Tea Tree Acne Face Wash* relies heavily on layered green tones to suggest health and environmental integrity, supported by a white backdrop for purity, while splashes of red and yellow introduce visual distractions from its actual ingredient transparency.

Vibrant Beauty Lemon Purifying Face Wash employs a bold yellow background to symbolize freshness and vitality, coupled with green typography to promote naturalness, despite lacking clarity on environmental impact. *Eveline Facial Wash Gel* utilizes gradients of green and white to convey nature and purity, while metallic silver accents suggest a premium, sophisticated aesthetic—yet the underlying product remains chemically formulated. *CoNatural Hydrating Aloe Vera Face Wash* presents a soft mint green and white palette paired with aloe visuals to create a soothing, eco-conscious identity, although the packaging material and absence of verifiable sustainability data may undermine this image. *Seven Herbal Beauty Cream* merges green, red, and gold—each symbolizing nature, vitality, and luxury—with traditional motifs, potentially overemphasizing the product’s naturalness through cultural appeal.

Soft Touch Massage Cream Herbal uses deep green tones with gold embellishments and a white jar to evoke a sense of luxury and hygiene, subtly reinforcing an eco-premium identity despite limited sustainable credentials. *Fair & Lovely Herbal Care Glowing Fairness Cream* integrates white, orange, and floral illustrations to suggest purity and vitality within a botanical frame, while simultaneously promoting unrealistic beauty ideals under the guise of herbal care. *Esfolio Green Herb Sun Cream* leverages green and white to project herbal safety and cleanliness, despite the inclusion of synthetic agents. Lastly, *Hollywood Style Whitening Massage Cream* combines white and green with metallic silver and a striking red droplet to visually emphasize hydration and purity—while the formulation and packaging raise concerns about actual eco-alignment.

Collectively, these color strategies serve as persuasive semiotic tools that enhance consumer trust and environmental appeal, even as they often mask inconsistencies between visual rhetoric and the products’ environmental realities.

Further extending the semiotic analysis, the size and visual prominence of textual and graphic elements on these ten skincare products contribute to constructing eco-conscious narratives that may not accurately reflect the products' actual sustainability. These spatial strategies, aligned with the first phase of the Tanz Model of Eco-Critical Discourse (TMED), enhance the visibility of natural cues while minimizing attention to less favorable attributes.

The *Himalaya Purifying Neem Face Wash* employs bold typography for *Purifying Neem* and oversized leaf icons to amplify its herbal appeal, while scientific details in smaller font subtly minimize the visibility of synthetic components. *Derma Shine Tea Tree Acne Face Wash* similarly features large droplet and leaf symbols to foreground purity and natural oils, while disclaimers and technical information are rendered less prominent. *Vibrant Beauty Lemon Purifying Face Wash* highlights vibrant lemon slices at a substantial scale, positioning natural freshness at the forefront, while less conspicuous text reduces the visibility of its environmental limitations. *Eveline Facial Wash Gel* emphasizes a large aloe vera motif and bold 100% claims, reinforcing a natural identity; however, the visual dominance of these elements may overshadow the presence of chemical ingredients.

CoNatural Hydrating Aloe Vera Face Wash centers a large aloe image and label on its tube, suggesting transparency and simplicity, though the spatial hierarchy places aesthetic appeal over verifiable eco-practices. *Seven Herbal Beauty Cream* features a prominent 7 logo and bride-groom imagery, drawing immediate attention, while visual representations of natural ingredients are minimized, suggesting secondary importance. *Soft Touch Massage Cream Herbal* utilizes a large jar format with bold green leaf designs to imply richness and sustainability, while the actual ingredient list remains less emphasized. *Fair & Lovely Herbal Care Glowing Fairness Cream* employs a striking light-to-dark transformation graphic and DNA motifs to support a narrative of natural transformation, whereas smaller herbal icons appear less integral. *Esfolio Green Herb Sun Cream* highlights a numeric herb percentage (57.36%) in a central position to convey scientific precision, complemented by a compact, nature-toned tube that reinforces portability and eco-alignment. *Hollywood Style Whitening Massage Cream* leverages a large facial image and oversized floral patterns to dominate visual perception, with finer details and ingredient information receding in the background.

Across these products, spatial hierarchy and sizing techniques serve as strategic semiotic tools—emphasizing perceived naturalness and eco-credibility while downplaying less marketable details. This influence contributes to a carefully curated image of sustainability, reflecting broader greenwashing patterns within skincare marketing.

In alignment with the semiotic dimension of the Tanz Model of Eco-Critical Discourse (TMED), the typography and font hierarchies used across these ten skincare products contribute significantly to the construction of eco-conscious and health-centric narratives. These design strategies—particularly the typefaces, font sizes, and stylistic choices—shape consumer perceptions by foregrounding natural associations while rendering less sustainable or synthetic details less visually prominent.

Himalaya Purifying Neem Face Wash combines serif and sans-serif fonts to merge tradition with modernity, with *Purifying Neem* displayed in a larger font to emphasize its natural focus, while supplementary information appears in smaller text, subtly minimizing other aspects of the formulation. *Derma Shine Tea Tree Acne Face Wash* employs a bold, clean sans-serif font for *Derma* to suggest clinical credibility, complemented by cursive elements for *purifying* that evoke softness and naturalness; disclaimers, however, are presented in fine print, contributing to a visual hierarchy that prioritizes appeal over disclosure. *Vibrant Beauty Lemon Purifying Face Wash* reinforces vibrancy and freshness through large, bold fonts for the brand and product name, while cautionary text and ingredient notes appear in less conspicuous fonts, drawing less attention.

Eveline Facial Wash Gel utilizes bold capital lettering for *100%* and *Aloe Vera*, effectively elevating natural claims, while neutral sans-serif typography throughout maintains a clean, minimalist tone that may underplay the presence of synthetic ingredients. *CoNatural Hydrating Aloe Vera Face Wash* opts for modern, readable fonts for key descriptors, while less emphasized serif fonts convey product features, subtly reinforcing trust and purity without explicit environmental claims. *Seven Herbal Beauty Cream* features stylized scripts for *Seven Herbal* to highlight its plant-based identity, while simpler fonts for functional claims (e.g., *Whitens Skin*) contribute to a balanced but selective representation.

Soft Touch Massage Cream Herbal draws attention through a bold, central *Massage Cream* label, while supporting claims are relegated to smaller fonts, contributing to a narrative of natural efficacy that may not fully represent the formulation. *Fair & Lovely Herbal Care Glowing Fairness Cream* utilizes customized sans-serif fonts for the brand identity, paired with all-caps *Herbal Care* in bold type to reinforce botanical connotations, while thinner, subdued fonts for disclaimers redirect attention from complexities. *Esfolio Green Herb Sun Cream* combines bold sans-serif headings with italicized serif fonts for subcategories like *Herbs*, blending a modern and artisanal visual narrative that foregrounds naturalness. *Hollywood Style Whitening Massage Cream* uses dominant fonts for primary beauty benefits while presenting supporting text in smaller, less prominent fonts, subtly guiding consumer perception toward selective product strengths.

Collectively, these font-based strategies function as semiotic tools that structure consumer attention and shape brand narratives. By amplifying eco-aligned phrases and minimizing less marketable details, such typographic hierarchies contribute to a broader greenwashing discourse within skincare marketing.

4.1.2.2 Linguistic Analysis of Skin Care Products

The linguistic strategies used across the packaging of these ten skincare products reflect a consistent pattern of eco-lexical framing that aligns with greenwashing practices. Drawing on the second phase of the Tanz Model of Eco-Critical Discourse (TMED), this analysis examines how carefully selected words, metaphors, and idiomatic expressions evoke perceptions of naturalness, environmental responsibility, and skincare efficacy. Terms such as *purifying*, *neem*, and *turmeric* on the *Himalaya Neem Face Wash* highlight plant-based purity and safety, while descriptors like *soap-free* and *paraben-free* construct an image of chemical-free wellness, even when synthetic ingredients may be present. *Derma Shine Tea Tree Face Wash* utilizes expressions like *herbal innovation* and *clarifying* to signal natural efficacy, prominently featuring *tea tree* while omitting concentration details.

Vibrant Beauty Lemon Face Wash integrates claims such as *organic* and *dermatologically tested* to imply safety and sustainability, while the metaphor *purifying* enhances its cleansing appeal. *Eveline Facial Wash Gel* emphasizes *100% bio aloe vera* and *alcohol-free* for a gentle, nature-aligned image, supported by phrases like *intensely*

moisturizes that further its appeal, though empirical backing is not always provided. *CoNatural Aloe Vera Face Wash* employs green phrases such as *hydrating*, *sulphate & paraben free*, and *pH balanced*, while scientific metaphors like *formulated with hyaluronic acid* suggest clinical precision without necessarily confirming eco-sustainability.

Seven Herbal Beauty Cream uses terms like *pure herbs* and *natural actives* to signal authenticity, while metaphorical claims such as *whitens skin* frame transformation narratives. *Soft Touch Massage Cream Herbal* leverages *herbal* branding and idioms like *refreshes*, *energizes*, and *relaxes* to promote sensory and emotional benefits, although product transparency may be limited. *Fair & Lovely Herbal Care Cream* utilizes phrases such as *herbal care* and metaphors like *glowing fairness solution* to associate radiance with natural purity, reflecting broader beauty discourse. *Esfolio Green Herb Sun Cream* incorporates *green* and *6 herb extracts complex* to emphasize botanical formulation, while metaphors imply holistic benefits that may mask the presence of synthetic agents. *Hollywood Style Whitening Massage Cream* similarly highlights *herbal formula* and idiomatic expressions such as *invigorates*, *softens & refreshes*, which frame the product as naturally revitalizing while directing focus away from broader environmental or ethical concerns.

Overall, these linguistic elements construct a compelling eco-health narrative that aligns with consumer values while sometimes overlooking the products' actual ecological credentials—thereby contributing to the broader phenomenon of greenwashing.

4.1.3 Hair Care

The hair care category in this research comprises ten diverse products that reflect a mix of herbal, organic, and chemical-free formulations catering to various consumer needs. These products include Lifebuoy Herbal Shampoo, Herbal Essences Dazzling Shine Lime Essences Shampoo, and Head & Shoulders Neem Anti-dandruff Shampoo, which focus on scalp health and hair nourishment. Other products, such as Palmolive Naturals Healthy & Smooth Shampoo (enriched with aloe vera and fruit vitamins) and L'Oréal Paris Botanicals Fresh Care Ginger & Coriander Strengthening Shampoo, emphasize natural ingredients for enhanced hair vitality. Additionally, Sunsilk Natural Recharge Fig & Mint Refresh Shampoo, Mama Organic Onion Shampoo, and Golden Pearl Hello Hair Herbal Shampoo + Conditioner incorporate unique botanical extracts for specialized care. Traditional formulations like Dabur Amla Reetha & Shikakai Shampoo

and eco-conscious options like Garnier Fructis Pure Clean Purifying Shampoo (silicone-free) are also included, highlighting a range of choices for consumers seeking sustainable and effective hair care solutions. These products were selected to provide a comprehensive analysis of the green language, visual elements, and claims used on their labels. The following figure signifies the front labels of ten hair care products:

Figure 4.3

Hair Care



Note. Hair care product packaging used for semiotic and linguistic analysis. The image illustrates the visual and textual elements of selected shampoos and conditioners analyzed in this study. These products were chosen based on their marketing claims, natural imagery, and popularity in the Pakistani market.

4.1.3.1 Semiotic Analysis of Hair Care Products

This section examines the visual and textual signs embedded in the packaging of ten selected hair care products, in line with the first phase of the Tanz Model of Eco-Critical Discourse (TMED). These semiotic elements—logos, symbols, icons, and nature-

based imagery—construct a visual narrative that aligns the products with eco-conscious values. *The Lifebuoy Herbal Shampoo* features a red cross within an oval logo, traditionally symbolizing health and safety, accompanied by neem imagery to reinforce notions of purity and natural care, despite the likelihood of synthetic components. Similarly, *Herbal Essences Dazzling Shine Shampoo* incorporates lime visuals and labels such as *0% colourants, paraffin, silicones*, which project environmental responsibility, while offering limited transparency regarding other additives.

The *Head & Shoulders Neem Shampoo* prominently displays neem leaves and green labeling to signify natural efficacy, yet this semiotic framing may obscure its largely chemical formulation. *Palmolive Naturals Healthy & Smooth Shampoo* combines aloe vera visuals with a sleek, modern design, blending organic and synthetic cues to suggest a balanced, nature-derived formula that may not fully align with its actual composition. *L'Oréal Botanicals Ginger & Coriander Shampoo* utilizes leaf motifs and the term *botanicals* to convey a sustainable identity, though these signs may amplify its green credentials without adequate substantiation.

Sunsilk Natural Recharge Shampoo features fig and mint imagery alongside green visual elements to emphasize freshness and plant-based strength, though the extent of genuine herbal content remains unclear. *Mama Organic Onion Shampoo* showcases icons such as *paraben & sulfate free* and vibrant onion visuals to strengthen its association with clean and conscious beauty, yet the absence of details about sourcing or manufacturing processes dilutes the credibility of these claims. *Golden Pearl Hello Hair Shampoo* combines bold claims like *92% natural nutrients* with swirling herbal symbols, which may overstate its ecological responsibility. *Dabur Amla Reetha & Shikakai Shampoo* foregrounds shiny hair imagery and botanical references to suggest traditional herbal efficacy, while potentially minimizing awareness of synthetic additives. Lastly, *Garnier Fructis Pure Clean Shampoo* uses a prominent green G, aloe imagery, and capsule visuals to promote a narrative of cleanliness and nature, which may mask the environmental cost of its formulation.

Collectively, these packaging strategies demonstrate how semiotic signs are mobilized to construct an illusion of naturalness, wellness, and eco-responsibility. In many cases, these elements contribute to greenwashing by prioritizing visual appeal over authentic sustainability.

Furthermore, the packaging shapes of these ten hair care products appear thoughtfully designed to reflect naturalness, balance, and eco-consciousness, often contributing to a greenwashed visual identity that may not fully correspond with the products' material composition. *Lifebuoy Herbal Shampoo* features an oval logo and circular motifs that symbolize health and continuity, while the ergonomic bottle enhances usability—though its plastic form subtly contrasts with the natural associations conveyed. *Herbal Essences Dazzling Shine Lime Essences Shampoo* uses circular logos and lime imagery to reflect harmony with nature, yet the functional L-shaped plastic bottle does not necessarily support sustainable packaging practices. Similarly, *Head & Shoulders Neem Anti-Dandruff Shampoo* integrates a sleek D-shaped bottle and neem visuals to communicate modernity and simplicity, potentially drawing attention away from the synthetic elements within. *Palmolive Naturals Healthy & Smooth Shampoo* employs a curved silhouette with hexagonal shapes to blend organic aesthetics and scientific appeal, although the packaging material complicates the narrative of naturalness. *L'Oréal Paris Botanicals Fresh Care Ginger & Coriander Shampoo* presents a rounded, plant-inspired form that aligns with its botanical positioning, while its plastic container may raise questions about environmental alignment. *Sunsilk Natural Recharge Fig & Mint Refresh Shampoo* utilizes softly curved bottles and flowing leaf-like elements to visually suggest freshness and nature, subtly reinforcing a sustainable image. *Mama Organic Onion Shampoo* combines a rounded bottle with a pump dispenser and nature-themed imagery to convey gentleness and purity, yet its plastic composition may temper these ecological impressions. *Golden Pearl Hello Hair Herbal Shampoo + Conditioner* uses oval bottles with circular ingredient visuals and swirling green designs to reinforce a nature-centric identity, although this is not clearly supported by the packaging's sustainability credentials. *Dabur Amla Reetha & Shikakai Shampoo* features a soft, curved bottle with herbal imagery and dynamic motion graphics that suggest vitality and tradition, though the material remains conventional. Lastly, *Garnier Fructis Pure Clean Purifying Shampoo* combines a rectangular bottle with softened edges and aloe vera visuals to suggest structure and nature, while the plastic packaging may dilute its eco-friendly message. Overall, these shape and design elements work collectively to support a green and health-conscious narrative, though they occasionally obscure the environmental implications of the packaging materials themselves.

In addition, the color schemes of these ten hair care products are carefully constructed to convey an impression of eco-friendliness, health, and natural purity, often reinforcing greenwashing narratives by visually suggesting environmental responsibility. *Lifebuoy Herbal Shampoo* utilizes a bold red oval with a white cross—symbols traditionally associated with protection and hygiene—complemented by green accents and leaf imagery to evoke natural health, although synthetic ingredients may still be present. *Herbal Essences Dazzling Shine Lime Essences Shampoo* features a light green bottle with a darker green lid, tapping into nature-related associations, while the use of white text enhances perceptions of simplicity and purity, even if such visual cues do not fully correspond with sustainable formulations. *Head & Shoulders Neem Anti-Dandruff Shampoo* incorporates neem leaf imagery against a white background to signal cleanliness and natural efficacy, contrasted by a gleaming blue bottle that lends a contemporary aesthetic, potentially diverting attention from non-natural components. *Palmolive Naturals Healthy & Smooth Shampoo* prominently displays light and dark green hues that signal vitality and environmental awareness, with white text reinforcing an image of organic cleanliness, though this may not reflect the actual ingredient composition.

L'Oréal Paris Botanicals Fresh Care Ginger & Coriander Shampoo heavily leans into green tones, using soft leaf imagery layered over a white background to emphasize freshness and naturalness, despite the possibility that its formulation does not entirely meet eco-conscious expectations. *Sunsilk Natural Recharge Fig & Mint Refresh Shampoo* blends light and deep greens with vibrant fruit-inspired reds and pinks to symbolize refreshment, nature, and liveliness, creating a rich aesthetic that may overstate its environmental responsibility. *Mama Organic Onion Shampoo* uses a predominantly white palette with green accents and earthy tones—such as red, brown, and beige—to underscore its alignment with nature, though these visuals may obscure the product's broader ecological footprint. *Golden Pearl Hello Hair Herbal Shampoo + Conditioner* pairs a white base with green caps and natural imagery, drawing on fruit visuals to foster a narrative of purity and sustainability, even though the plastic packaging raises concerns about long-term environmental impact. *Dabur Amla Reetha & Shikakai Shampoo* juxtaposes a black background with green highlights and floral tones, evoking sophistication and herbal wellness, though these color choices may not directly correlate with sustainability credentials. Finally, *Garnier Fructis Pure Clean Purifying Shampoo*

combines a gradient of green tones—from dark forest to aqua—with clean white text and graphics like *silicone-free* and *pure clean*, promoting a perception of environmental care that may not fully align with the product's material or ecological profile.

Collectively, these visual color strategies employ familiar natural cues—green shades, white backgrounds, and organic color palettes—to strengthen the illusion of purity and sustainability, subtly reinforcing greenwashing by overshadowing the environmental complexities of packaging and formulation.

Moreover, the size and structural design elements of these ten hair care products are strategically utilized to emphasize eco-friendly and natural themes, often contributing to greenwashing by diverting attention from less sustainable components. *Lifebuoy Herbal Shampoo* features prominent text and a large image of a mother and daughter with glossy hair, reinforcing a family-oriented, healthful identity. Meanwhile, the smaller text referencing ingredients such as milk protein and neem tree extract subtly minimizes the visibility of potentially synthetic components. *Herbal Essences Dazzling Shine Lime Essences Shampoo* employs oversized lime imagery and delicate leaf visuals that dominate the label space, visually prioritizing purity and natural appeal, despite the broader formulation being more complex.

Head & Shoulders Neem Anti-Dandruff Shampoo showcases a bold D-shaped plastic bottle with enlarged neem leaf graphics and vibrant green labeling to project a nature-aligned identity, though the use of conventional plastic packaging contrasts with this eco-friendly image. *Palmolive Naturals Healthy & Smooth Shampoo* is presented in a compact 180ml container, where a prominently displayed aloe vera image captures attention, while smaller hexagonal scientific symbols may suggest credibility but downplay the synthetic aspects of the formulation. *L'Oréal Paris Botanicals Fresh Care Ginger & Coriander Strengthening Shampoo* uses a relatively large 400ml size, which may imply eco-consciousness through reduced repurchase frequency. Dominant botanical visuals further this narrative, though the plastic packaging somewhat undermines the overall sustainable impression.

Sunsilk Natural Recharge Fig & Mint Refresh Shampoo employs a compact plastic bottle with the words *Natural Recharge* prominently placed, while supporting fruit and mint imagery, though small in size, helps sustain a green narrative that may not reflect the ingredient reality. *Mama Organic Onion Shampoo* foregrounds its brand name

and product title in large text, while visual depictions of key natural ingredients like onions and almonds are comparatively minimal, subtly shaping consumer assumptions about its eco-friendliness despite the plastic container. *Golden Pearl Hello Hair Herbal Shampoo + Conditioner* positions bold claims such as *92% Herbal Nutrients* centrally, while the accompanying fine print qualifying the claim is comparatively reduced, and swirling green visuals reinforce a natural aesthetic that may lack transparency.

Dabur Amla Reetha & Shikakai Shampoo utilizes a 175ml curved bottle to highlight vibrant visuals of amla and a model with healthy hair, creating an aspirational image that may overshadow the smaller ingredient icons and processed content. Lastly, *Garnier Fructis Pure Clean Purifying Shampoo*, packaged in a 12.5 fl oz rectangular bottle with softened edges, features a prominent aloe vera capsule and bold textual claims such as *Pure Clean* and a small cruelty-free icon, all of which work together to suggest environmental consciousness, potentially diverting attention from synthetic ingredients.

Overall, the size, shape, and spatial arrangement of visual elements across these products are leveraged to elevate perceptions of naturalness and sustainability, often diminishing the visibility of less favorable aspects, thus contributing to a broader pattern of greenwashing.

Additionally, the font types and sizes used across these ten hair care products contribute significantly to the construction of a natural and eco-friendly brand image. Through strategic typographic choices, these designs foreground selected health-related or plant-based features, while presenting other product information in a more understated manner. *Lifebuoy Herbal Shampoo* uses bold green sans-serif fonts for *Herbal Shampoo* to highlight its association with nature, while information such as *milk protein* and *neem tree extract* appears in smaller fonts, guiding attention toward more familiar natural claims.

Herbal Essences Dazzling Shine Lime Essences Shampoo emphasizes *Dazzling* and *Shine* in large, bold fonts, creating an impression of freshness and vibrancy, while secondary claims such as *0% colourants*, *paraffin*, *silicones* are rendered in smaller text, providing an impression of transparency in a less prominent way. Similarly, *Head & Shoulders Neem Anti-Dandruff Shampoo* features *Neem* in bold uppercase letters to reinforce its natural component, while the supporting claims are placed in relatively smaller fonts, suggesting effectiveness without overshadowing the nature-focused appeal.

Palmolive Naturals Healthy & Smooth Shampoo prominently displays *Palmolive* and *Naturals* in bold fonts, projecting a clean and modern aesthetic, while additional benefits appear in smaller fonts that support the overall theme of simplicity and care. *L'Oréal Paris Botanicals Fresh Care Ginger & Coriander Strengthening Shampoo* emphasizes the term *Botanicals* in bold, capitalized font to reflect its plant-based identity, while the accompanying product details are visually secondary, maintaining a balance between branding and information.

Sunsilk Natural Recharge Fig & Mint Refresh Shampoo adopts bold, friendly fonts for *Sunsilk* and *Natural* to evoke trust and familiarity, while product details appear in finer fonts that maintain a clean, approachable layout. *Mama Organic Onion Shampoo* similarly uses bold fonts for *Onion Shampoo* and *Mama Organic*, supporting a natural image, while softer, smaller fonts for other features contribute to a subtle and cohesive design.

Golden Pearl Hello Hair Herbal Shampoo + Conditioner displays *Hello Hair* and 92 in bold, eye-catching fonts, highlighting key product claims, while the percentage qualifier and descriptive phrases appear in smaller text, ensuring visual clarity while keeping the focus on brand identity. *Dabur Amla Reetha & Shikakai Shampoo* places *Amla* in a stylized, prominent font to emphasize its traditional herbal association, while supporting terms such as *Reetha & Shikakai* and *Brilliant Black Shine* are presented in simpler fonts, preserving the overall aesthetic balance.

Lastly, *Garnier Fructis Pure Clean Purifying Shampoo* features *Pure Clean* and the brand name in bold, clean fonts to reinforce a message of reliability and health-conscious care, while smaller fonts for claims such as *silicone-free* complement the minimalist design without overwhelming it.

Across these products, font styles and hierarchies are employed to create clarity and appeal, helping to foreground selected natural or sustainability-related aspects in line with current consumer expectations. These design choices, while visually appealing, may contribute to an impression of enhanced environmental consciousness that is not always explicitly supported by product content.

4.1.3.2 Linguistic Analysis of Hair Care Products

This section explores the linguistic strategies employed on the packaging of ten hair care products, focusing on how language constructs a perception of eco-friendliness,

natural care, and product efficacy. Drawing on the second phase of the Tanz Model of Eco-Critical Discourse (TMED), the analysis examines the use of green words, metaphors, and idiomatic expressions to foster an environmentally conscious brand image that may not always align with the product's actual formulation or ecological impact. As Fairclough (1992) reminds, such discursive choices are not neutral but function ideologically, shaping consumer perceptions of sustainability.

The Lifebuoy Herbal Shampoo incorporates green words such as herbal, neem tree extract, and milk protein, which emphasize botanical ingredients, while metaphoric phrases like strong & long subtly reinforce idealized beauty standards, shifting the focus away from the broader sustainability narrative. Similarly, *Herbal Essences Dazzling Shine Lime Essences Shampoo* uses lime essences to evoke natural freshness, with expressions like dazzling shine and idioms such as 0% colourants, paraffin, silicones emphasizing purity, although without full disclosure of the complete ingredient profile.

Head & Shoulders Neem Anti-Dandruff Shampoo highlights the word neem to convey herbal efficacy, while metaphors like cleanses your scalp and relieves itch suggest soothing care. Claims such as dandruff up to 100% free function as figurative language reinforcing effectiveness, yet they may shift attention away from synthetic contents. *Palmolive Naturals Healthy & Smooth Shampoo* features terms like naturals, aloe vera, and fruit vitamins to promote an organic image, while the metaphor new advanced formula blends scientific innovation with natural appeal.

In *L'Oréal Botanicals Fresh Care Ginger & Coriander Strengthening Shampoo*, phrases like botanicals, silicone-free, and vegan formula project a conscientious image, supported by metaphors such as strengthens hair & reduces breakage, which imply restorative, plant-based benefits. *Sunsilk Natural Recharge Fig & Mint Refresh Shampoo* utilizes words like natural and refresh, with metaphoric language such as recharge signaling vitality, even though the emphasis on sustainability may exceed what the product formulation supports.

Mama Organic Onion Shampoo relies on green terms like organic, natural, and non-toxic to enhance consumer trust, and metaphors such as with onion & plant protein suggest nourishment and growth. *Golden Pearl Hello Hair Herbal Shampoo + Conditioner* emphasizes herbal and 92% natural nutrients, complemented by the metaphor naturally thick & strong, which implies effective results tied to natural

properties, though the depth of such claims may be limited by the product's full composition.

Dabur Amla Reetha & Shikakai Shampoo incorporates culturally rooted green words like amla, reetha, and shikakai, while metaphorical phrases such as brilliant black shine convey transformative results, potentially drawing attention away from synthetic components. Lastly, *Garnier Fructis Pure Clean Purifying Shampoo* highlights words like pure, clean, silicone-free, and vitamins B3 & B6, supported by metaphors such as removes up to 100% of residue and ethical cues like cruelty-free to reinforce an image of both effectiveness and ethical awareness.

Across these products, linguistic strategies are employed to create a positive, nature-aligned narrative that aligns with current consumer values, reflecting Stibbe's (2014) observation that language can construct ecological narratives irrespective of actual environmental impact. While such expressions can aid in product differentiation, they may also contribute to an overstated perception of sustainability, warranting careful interpretation by environmentally conscious consumers.

4.1.4 Massage Oils

The massage oils category analyzed in this study includes ten diverse products representing a blend of herbal, organic, and multi-purpose formulations aimed at skin nourishment, hair care, and overall wellness. Products such as Pigeon Natural Botanical Olive Oil, Argan Oil & Chamomile Baby Water Gel, and Palmer's Moisturizing Body Oil focus on moisturizing and soothing the skin. CoNatural Organic Coconut Oil and The Body Shop Oils of Life Intensely Revitalizing Facial Oil emphasize natural and organic components for enhanced revitalization. Hair-specific oils like Emami 7 Oils in One Non-Sticky Hair Oil, Nisa Hair Oil, Dabur Vatika Naturals Shikakai Soft & Silky Enriched Hair Oil, and Wellace Amla Deep Repair Hair Oil offer a range of benefits, from deep repair to smoothness and shine. Additionally, versatile products such as Palmer's Hair & Scalp Oil with Coconut Oil and Vitamin E, and Johnson's Baby Creamy Oil with Aloe & Vitamin E, cater to both hair and skin care, ensuring multi-functional use. This selection facilitates a comprehensive analysis of the visual and linguistic elements on their labels, revealing patterns in green marketing practices. The figure of front labels of the ten selected massage oils is as follow:

Figure 4.4*Massage Oils*

Note. This figure shows ten massage and hair oil products chosen for semiotic and linguistic analysis, focusing on visual and textual elements used to promote naturalness and wellness.

4.1.4.1 Semiotic Analysis of Massage Oils

This section applies the TMED model's semiotic lens to explore how massage oil packaging constructs eco-conscious and natural identities. Through signs, symbols, and visuals, these products often promote an environmentally responsible image that may not align with their actual formulation.

The ten massage oils analyzed employ a variety of greenwashing techniques through the strategic use of imagery, icons, and language to project an eco-friendly and natural image, often obscuring the realities of their ingredient compositions or environmental impact. *Pigeon Natural Botanical Olive Oil, Argan Oil & Chamomile Baby Water Gel* incorporates icons like a leaf and heart to evoke care and nature, alongside visuals of argan and olive fruits, chamomile flowers, and water clouds, creating a misleading impression of plant-based purity. *Palmer's Moisturizing Body Oil* uses

imagery of cocoa beans, cut open to display their natural interiors, along with leaf visuals to emphasize botanical origins. The transparent bottle showcasing yellow oil enhances the perception of simplicity and purity, while the earthy brown tones, green leaves, and orange capsule framing the brand name evoke eco-friendliness. The bold use of terms like *cocoa butter formula* and *moisturizes & softens*, paired with references to vitamin E and nutrient richness, reinforces a natural and nourishing image, yet the lack of transparency regarding synthetic components reveals greenwashing tactics. Similarly, *CoNatural Organic Coconut Oil* prominently highlights the *organic* label and checkmark symbols to suggest certification, cultivating an eco-conscious appeal while relying on self-declared standards. *The Body Shop Oils of Life Intensely Revitalizing Facial Oil* leverages its circular logo to signify natural cycles and sustainability, complemented by a dropper applicator symbolizing scientific precision. However, without visible certifications, it leans heavily on brand reputation for validation. *Emami 7 Oils in One Non-Sticky Hair Oil* features images of almonds, olives, argan, walnut, and jojoba, along with wavy lines and leaves to symbolize flow and nature, but its emphasis on *7 oils* risks misleading consumers about the actual concentrations of these oils. *Nisa Hair Oil* employs dramatic before-and-after visuals and claims like *premium quality* to suggest effective, chemical-free results, even when synthetic components may be present. *Dabur Vatika Naturals Shikakai Soft & Silky Enriched Hair Oil* enhances its natural narrative through leaf imagery and visuals of shikakai pods, with a *30+ emblem* implying durability and efficacy, though transparency around actual ingredients is limited. *Wellice Amla Deep Repair Hair Oil* uses a crown-like logo to signify premium quality and innovation, alongside images of amla and olives to support its natural image. *Palmer's Hair & Scalp Oil with Coconut Oil and Vitamin E* emphasizes tropical imagery with its *coconut oil formula* logo, visuals of coconuts, and a *Tahitian origins* stamp, while *chemical-free* claims distract from potential synthetic inclusions. Finally, *Johnson's Baby Creamy Oil with Aloe & Vitamin E* employs water droplets and heart symbols to evoke gentleness, purity, and care, appealing to parents but potentially overstating its naturalness. Across these products, the collective use of natural imagery, eco-centric icons, and unverified claims fosters a nature-centric narrative, leveraging consumer trust while masking the actual environmental or ingredient realities, thus exemplifying various greenwashing strategies.

In addition to shape and structure, the color schemes of these ten massage oils are carefully curated to foster perceptions of purity, wellness, and eco-consciousness, subtly

enhancing green appeal while often diverting attention from synthetic content or plastic packaging. *Pigeon Natural Botanical Olive Oil, Argan Oil & Chamomile Baby Water Gel* combines soft greens, light blues, and off-white hues, evoking calmness and natural care—particularly effective for appealing to parents—while masking the synthetic aspects of its formulation. *Palmer's Moisturizing Body Oil* employs rich earth tones such as cocoa brown and golden yellow, symbolizing warmth, nourishment, and plant-based authenticity, though the absence of eco-labels limits the credibility of this natural narrative. *CoNatural Organic Coconut Oil* features a minimalist white and green palette, with green suggesting organic purity and white connoting cleanliness, enhancing its eco-image despite being packaged in plastic. *The Body Shop Oils of Life Intensely Revitalizing Facial Oil* uses warm amber and gold tones alongside a clear glass bottle, reinforcing luxury and nature simultaneously—an aesthetic blend that may outweigh the lack of transparent eco-verification.

Emami 7 Oils in One Non-Sticky Hair Oil incorporates deep greens, soft golds, and earthy reds to highlight plant richness and vitality, yet these colors may overstate the product's natural content. *Nisa Hair Oil* relies on white, green, and metallic gold to communicate cleanliness, herbal care, and premium quality; however, this visual language overshadows the absence of ingredient transparency. *Dabur Vatika Naturals Shikakai Soft & Silky Enriched Hair Oil* makes use of vibrant greens and beige tones to suggest botanical authenticity and softness, a palette often used to associate with herbal efficacy, even when synthetic components are present. *Wellice Amla Deep Repair Hair Oil* blends greens, browns, and off-whites to promote a nature-rooted image, while its use of capsule visuals and crown-like icons adds a premium touch that may not reflect actual formulation standards. *Palmer's Hair & Scalp Oil with Coconut Oil and Vitamin E* emphasizes tropical tones—brown, white, and green—to reinforce coconut and botanical purity, while vibrant accents of blue and orange enhance appeal and suggest freshness. Lastly, *Johnson's Baby Creamy Oil with Aloe & Vitamin E* employs gentle pastels like mint green and soft peach, evoking baby safety and soothing nature, which could conceal less sustainable aspects beneath the comforting visual presentation.

Across all products, the strategic use of nature-inspired palettes—greens, browns, whites, and earth tones—effectively communicates an image of naturalness, wellness, and eco-responsibility. While these visual choices successfully appeal to health- and environment-conscious consumers, they often embellish the actual ecological

performance of the products, subtly contributing to greenwashing under the guise of thoughtful color design.

In contrast with, the color schemes of these ten massage oils employ strategic choices to reinforce greenwashing narratives, creating the illusion of eco-friendliness, naturalness, and sustainability. *Pigeon Natural Botanical Olive Oil, Argan Oil & Chamomile Baby Water Gel* uses a soft green to evoke nature and purity, complemented by an off-white background that implies unprocessed, organic materials, while blue accents subtly suggest cleanliness and freshness—all reinforcing a natural image without substantiating these claims. Similarly, *Palmer's Moisturizing Body Oil* relies on an earthy palette, including brown rectangles symbolizing nature and sustainability, green leaves emphasizing health and eco-consciousness, and yellow oil to convey vibrancy and purity; the addition of orange tones adds warmth and vitality. These earth tones craft an image of natural richness, despite a lack of evidence supporting environmental responsibility.

CoNatural Organic Coconut Oil uses a beige-gold background to signify natural, premium quality, while black text provides contrast and a sense of authority. The inclusion of dark blue or purple accents subtly implies luxury and trustworthiness, while natural coconut imagery further amplifies the greenwashed narrative of eco-friendliness. *The Body Shop Oils of Life Intensely Revitalizing Facial Oil* employs an amber-brown glass bottle often associated with traditional medicine and organic products, paired with a black cap for premium appeal and a beige label suggesting earthy qualities. The two-tone liquid effect within the bottle evokes natural separation, enhancing the perception of purity and minimal processing, despite the lack of verified eco-certifications.

Emami 7 Oils in One Non-Sticky Hair Oil leans heavily on yellow-green chartreuse, evoking nature and freshness, while gold accents suggest premium, natural luxury. The green color of olives, jojoba, and leaves shows eco-friendliness, and the light brown color of almond, walnut, and argan fruit signifies natural ingredients. This bright palette distracts from the product's synthetic elements, subtly misleading consumers about its environmental credentials. *Nisa Hair Oil* combines yellow, associated with sunlight and positivity, with black, symbolizing sophistication, and green in its logo to imply eco-consciousness. While understated, these choices reinforce an image of natural care that is not fully supported by the product's composition.

Dabur Vatika Naturals Shikakai Soft & Silky Enriched Hair Oil uses a brown-amber bottle to suggest earthy ingredients, with green elements, such as leaves and part of

the logo, hinting at nature and sustainability. White text provides a contrast that conveys cleanliness and purity, further supporting a greenwashed image. *Wellice Amla Deep Repair Hair Oil* employs a predominantly green color scheme, tapping into associations with nature and freshness, complemented by beige accents to highlight earthiness. White text reinforces the perception of purity, though these visual cues overshadow synthetic ingredients.

Palmer's Hair & Scalp Oil with Coconut Oil and Vitamin E uses white to symbolize cleanliness, green to emphasize eco-friendliness, and orange to evoke tropical vitality, creating a strong natural and health-focused impression that downplays the synthetic aspects of its formulation. Finally, *Johnson's Baby Creamy Oil with Aloe & Vitamin E* uses pale green to evoke nature and freshness, with white text suggesting simplicity and gentleness, appealing to parents seeking eco-conscious products for their children. Across all products, these carefully curated color schemes leverage nature-inspired palettes, such as greens, browns, yellows, and whites, to create a facade of environmental and natural integrity, while the lack of transparency or evidence supporting these claims exposes the greenwashing strategies at play.

Moreover, the size and structural design of these ten massage oil packages support greenwashing narratives by visually suggesting sustainability, concentration, or premium quality—without consistently substantiating these impressions. *Pigeon Natural Botanical Baby Water Gel* (200 ml) uses plant imagery and a modest volume to imply gentleness and natural concentration, subtly shifting attention from the use of synthetic ingredients and plastic packaging. *Palmer's Moisturizing Body Oil* (250 ml) features a medium bottle with prominent visuals of cocoa beans and leaves, reinforcing a sense of richness and botanical purity; however, the natural message is not fully supported by transparent ingredient disclosure. *CoNatural Organic Coconut Oil* (120 ml) employs a compact size to suggest premium concentration, while coconut imagery and clean aesthetics elevate its natural image, even though formal eco-certifications are absent. *The Body Shop Oils of Life* comes in a small glass bottle, leveraging visible liquid layers and minimalist packaging to project purity and sustainability, though much of this impression relies on brand reputation rather than verifiable eco-standards. *Emami 7 Oils in One Non-Sticky Hair Oil* features a larger bottle paired with vivid ingredient imagery, creating a sense of abundance and botanical richness, though the visual emphasis may overshadow the inclusion of synthetic elements. *Nisa Hair Oil's* small package and oil-drop visuals imply

efficiency and chemical-free care, while *Dabur Vatika Naturals Shikakai Soft & Silky Enriched Hair Oil* uses a compact bottle and enlarged natural ingredient images to project a sustainable, herbal identity. *Wellice Amla Deep Repair Hair Oil* also employs a compact size and reflective design to suggest environmental responsibility, yet lacks full ingredient transparency. *Palmer's Hair & Scalp Oil with Coconut Oil and Vitamin E* utilizes a small, streamlined design to reinforce messages of reduced waste and high potency, but the visual simplicity may downplay less natural elements. Finally, *Johnson's Baby Creamy Oil with Aloe & Vitamin E* uses a larger 8 fl oz size to emphasize practicality and family value, while its soft color palette and minimalist form promote a gentle, natural feel that may overshadow its full ingredient profile. Collectively, these design strategies enhance the perception of eco-consciousness, even when sustainability and ingredient claims are not fully verifiable, revealing subtle greenwashing tendencies embedded in size and packaging design.

Furthermore, the typography choices observed in the packaging of these ten massage oils contribute to greenwashing by emphasizing nature-oriented cues through font size, weight, and style. *Pigeon Natural Botanical Baby Water Gel* employs bold, sans-serif fonts for keywords such as *natural* and *botanical*, which highlight themes of purity and plant-based care, while smaller font sizes for ingredient information shift focus away from synthetic content. *Palmer's Moisturizing Body Oil* uses prominent sans-serif fonts for claims like *cocoa butter formula* and *moisturizes & softens*, visually reinforcing its nourishing and natural narrative, while ingredient disclosures appear in less conspicuous text. *CoNatural Organic Coconut Oil* features all-caps, bold fonts for words like *organic* and the brand name, suggesting credibility and eco-consciousness, paired with minimalist design elements that elevate its natural aesthetic, despite a lack of detailed certification indicators.

The Body Shop Oils of Life Intensely Revitalizing Facial Oil similarly uses bold, capitalized typography for the product name and phrases like *intensely revitalizing*, supported by smaller, softer fonts for supplementary details, which places emphasis on natural efficacy over formulation transparency. *Emami 7 Oils in One Non-Sticky Hair Oil* highlights phrases such as *7 oils* and *non-sticky* using bold, clean fonts, reinforcing the impression of botanical abundance while keeping ingredient lists in reduced font sizes. *Nisa Hair Oil* utilizes a typographic hierarchy where bold, uppercase text for phrases like *premium quality* draws attention to product promises, while lighter fonts for supporting

content maintain an understated appearance that contributes to a refined, natural brand image.

Dabur Vatika Naturals Shikakai Soft & Silky Enriched Hair Oil adopts bold fonts for words such as *shikakai* and *naturals*, paired with a structured sans-serif layout that evokes plant-based tradition while reducing the prominence of any synthetic components. *Wellice Amla Deep Repair Hair Oil* combines serif fonts, which lend a traditional and authentic tone, with modern sans-serif fonts that convey clinical reliability, directing consumer attention toward nature-based qualities over compositional specifics. *Palmer's Hair & Scalp Oil with Coconut Oil and Vitamin E* relies on bold, sans-serif fonts for terms like *coconut oil formula*, while presenting ingredient disclosures in smaller text, subtly emphasizing its natural appeal. Lastly, *Johnson's Baby Creamy Oil with Aloe & Vitamin E* uses rounded, soft fonts to reinforce its association with gentleness and care, while smaller typefaces for technical or compositional information maintain a focus on emotional appeal.

Across these products, font strategies contribute to an overall impression of purity, natural efficacy, and environmental friendliness. By selectively emphasizing eco-aligned language and de-emphasizing synthetic components through font size and style, the packaging constructs a nature-forward narrative that may not fully reflect the product's actual formulation or ecological footprint.

4.1.4.2 Linguistic Analysis of Massage Oils

These massage oils also demonstrate linguistic strategies that contribute to an eco-conscious brand narrative. Products such as *Palmer's Cocoa Butter Formula Body Oil*, *CoNatural Organic Coconut Oil*, and *Pigeon Natural Botanical Olive Oil, Argan Oil & Chamomile Baby Water Gel* utilize green words like *organic*, *natural*, *botanical*, and *cocoa butter* to evoke associations with purity, sustainability, and plant-based care. However, these terms often remain unregulated and lack third-party verification. For example, the label *organic* on *CoNatural Organic Coconut Oil* implies eco-certification, but no official endorsement is provided. Similarly, words such as *natural* and *botanical* on *Pigeon's Baby Water Gel* foster a gentle and nature-based impression, though these terms do not necessarily exclude synthetic components.

In addition, metaphors such as *first cold-press* on *CoNatural's* label and *baby water gel* on *Pigeon's* packaging suggest minimal processing and nurturing qualities,

reinforcing the perception of safe, natural care. *Palmer's* phrase *nutrient-rich blend of oils* constructs a metaphor of abundance and vitality, yet lacks clarity on concentrations or ingredient sourcing. Idiomatic expressions like *instant repair* on *Nisa Hair Oil* and *soft & silky* on *Dabur Vatika Naturals Shikakai Hair Oil* imply transformational benefits linked to nature, although such outcomes may not be substantiated by product composition.

Through this use of green words, figurative language, and idioms, the labels project a natural and environmentally friendly image. However, the lack of transparency around certifications, sourcing, and sustainability measures highlights how such language can contribute to greenwashing by appealing to eco-conscious values without offering concrete evidence.

4.2 Food and Beverages

The Food and Beverages category includes a wide array of products, such as energy drinks, fruit juices, ghee and cooking oils, honey, dairy products, grains and cereals, and herbal teas, all of which often leverage green marketing strategies to attract environmentally conscious consumers. These products typically emphasize their natural, organic, and sustainable qualities through a combination of visual and linguistic techniques on their packaging. In the visual domain, elements such as nature-inspired colors, imagery, and design styles are carefully crafted to evoke a sense of health and eco-friendliness. Likewise, in the linguistic domain, the use of green terminology, natural metaphors, and sustainability-oriented phrases reinforces these claims. By examining the semiotic and linguistic features of food and beverage product labels, this study seeks to explore how these strategies are employed to create an eco-conscious image and influence consumer behavior. This analysis contributes to understanding the use of green advertising within the food and beverage industry and its implications for greenwashing practices. The first sub-category, energy drinks, exemplifies these strategies with distinct claims and visual elements designed to highlight their natural and sustainable characteristics.

4.2.1 Energy Drinks

The Energy Drinks sub-category comprises a selection of ten popular products, including Red Bull The Green Edition Energy Drink, Nestle Milo Active Go, Java Monster Irish Crème, Rip It Energy Fuel, V Energy Drink, Sting Energy Drink, Nestle Fruita Vital Peach, Rockstar Revolt Green Apple Energy Drink, Schweppes Original Ginger Ale, and Mtn Dew AMP Energy Drink. These beverages are designed to provide

an instant energy boost and are often marketed as lifestyle products. Leveraging green marketing strategies, these energy drinks frequently emphasize natural ingredients, sustainable practices, and eco-friendly packaging. By examining their visual and linguistic elements, this study explores how these energy drinks construct an environmentally conscious image to appeal to health- and sustainability-oriented consumers. Following is the image of front labels of these ten energy drinks:

Figure 4.5

Energy Drinks



Note. This figure shows the ten selected energy drinks analyzed for visual and textual elements under the TMED model.

4.2.1.1 Semiotic Analysis of Energy Drinks

The labels of the ten selected energy drinks utilize a variety of semiotic strategies to convey an image of health, vitality, and naturalness, often in contrast with their actual ingredient profiles. These products rely on visual signs—such as symbols, colors, and imagery—that subtly associate the drinks with nature, energy, and wellness, reinforcing greenwashing techniques.

For instance, *Red Bull The Green Edition* uses a green-toned can and the phrase dragon fruit to suggest a natural, refreshing quality, despite the synthetic formulation. *Nestlé Milo Active Go* features the Activ-Go logo and a running figure to associate the product with physical fitness and energy, while splashes of white liquid imply purity—an image not fully supported by its processed ingredients. *Java Monster Irish Crème* blends aggressive visual motifs like claw marks and tribal graphics with earthy green tones, fostering a rugged but natural energy appeal. *Rip It Energy Fuel* incorporates watermelon imagery, lightning bolts, and seed visuals to reinforce natural fruit and vitality, while the acronym *G.O.A.T* taps into youth culture and distracts from the artificial content.

V Energy Drink highlights a bold V symbol and the word original to suggest authenticity and simplicity, though the formulation includes synthetic additives. *Sting Energy Drink* uses lightning bolt symbols and aggressive graphics to emphasize power and stimulation, projecting intensity over naturalness. *Nestlé Fruita Vital Peach* features realistic peach visuals and sparkling bubbles to communicate freshness and fruit-based nutrition, though these cues mask the presence of artificial sweeteners and flavors. *Rockstar Revolt Green Apple* combines camouflage designs, a star symbol, and ingredients like guarana and ginseng to project a rugged, nature-inspired image that does not reflect the product's synthetic base.

Schweppes Original Ginger Ale includes a dotted fountain emblem and the historical reference since 1783, evoking tradition and trust while glossing over industrial processing. *Mtn Dew AMP Energy Drink* employs lemon imagery, glowing accents, and references to B-vitamins to suggest natural energy and revitalization, even though artificial flavoring dominates its composition.

Collectively, these visual signs construct a narrative of health, energy, and environmental consciousness. However, the contrast between visual messaging and actual product contents reveals how semiotic choices can contribute to greenwashing by fostering misleading associations with nature and wellness.

Building upon the visual signs discussed earlier, the shapes and design elements of these ten energy drinks further reinforce greenwashing strategies by incorporating sleek, organic, or modern forms that subtly communicate naturalness, purity, and environmental friendliness. *Red Bull The Green Edition Energy Drink*, for instance, adopts a slim cylindrical can and a curved bull graphic that evokes fluidity and organic

motion, supporting an illusion of natural energy despite containing synthetic ingredients. Similarly, *Nestlé Milo Active Go* features dynamic diagonal lines and a curved white swoosh to convey vitality and movement, while the athletic figure suggests health and fitness, distracting from its processed chocolate-malt composition. *Java Monster Irish Crème* employs jagged claw marks and tribal motifs to suggest untamed energy and tradition, paired with a tall, matte can that mimics handcrafted aesthetics, masking the beverage's artificial content. *Rip It Energy Fuel* integrates a dynamic X-shape and curved leaf-like visuals, enhanced by a watermelon wedge to imply freshness, yet these are visually contradicted by the glossy, mass-produced can design. *V Energy Drink* reinforces an energetic but natural identity through its bold V emblem and radial patterns, though its cylindrical, commercial packaging betrays its synthetic makeup. *Sting Energy Drink* continues this trend with a tall, sharp-edged design that prioritizes boldness and stimulation over environmental cues. *Nestlé Fruita Vital Peach* combines a juice-box aesthetic with an inverted triangle symbolizing natural flow, reinforcing fruit-based associations while avoiding transparency around ingredients. *Rockstar Revolt Green Apple Energy Drink* juxtaposes camouflage graphics with rigid, modern lines to suggest a balance between nature and strength, although its synthetic content remains unchanged. *Schweppes Original Ginger Ale* features a dotted fountain motif and classic stripes to invoke spring-water purity, while its standard can silhouette undercuts the implied tradition. *Mtn Dew AMP Energy Drink* completes this trend by pairing lemon and leaf visuals with a diagonal swoosh, merging vitality with nature to obscure its artificial formulation. Collectively, these products extend their greenwashed narratives through design choices that visually align with eco-conscious values, reinforcing misleading impressions of sustainability and naturalness.

Coupled with the use of shapes and design elements, the color schemes of these ten energy drinks further reflect greenwashing strategies by employing nature-associated palettes to construct a perception of health, vitality, and environmental responsibility. *Red Bull The Green Edition Energy Drink* features dominant green tones to signal naturalness and sustainability, complemented by silver accents that maintain a modern, energetic feel, while pink dragon fruit text evokes exotic, plant-based appeal. *Nestlé Milo Active Go* emphasizes bright green to associate the drink with vitality and natural energy, supported by white tones implying purity, and red and yellow highlights that add youthful vibrancy without undermining the health narrative. *Java Monster Irish Crème* combines vivid

green with gold and black elements, using tribal-style claw marks and premium metallic textures to suggest both raw energy and authenticity. *Rip It Energy Fuel* utilizes multiple shades of green along with watermelon pink to reinforce a fruit-based and fresh identity, while curved patterns enhance the sense of organic flow. *V Energy Drink* relies on a bold green backdrop with black and yellow accents to communicate energetic freshness, subtly reinforcing nature-linked attributes that contradict its artificial content. *Sting Energy Drink* departs from eco-tones by using aggressive red, black, and white combinations to stress stimulation and strength, distancing itself from natural associations but still engaging in symbolic overstatement. *Nestlé Fruita Vital Peach* uses a dark base with vibrant peach imagery and white text to suggest freshness and premium quality, while the color contrast supports a fruit-derived, health-conscious impression. *Rockstar Revolt Green Apple Energy Drink* incorporates camouflage-like green patterns and black detailing to blend notions of rugged nature with bold energy, creating an eco-aligned visual despite synthetic ingredients. *Schweppes Original Ginger Ale* adopts a soft green background with yellow accents and heritage cues, including the year 1783, to imply both tradition and purity. *Mtn Dew AMP Energy Drink* uses a green gradient with glowing lemon visuals to link fruit-based freshness to revitalization, further enhanced by white luminescent elements that suggest purity. Collectively, these visual strategies, as analyzed through the semiotic lens of the Tanz Model of Eco-Critical Discourse (TMED), demonstrate how color is tactically employed to construct eco-friendly narratives. While these schemes resonate with consumer expectations of health and sustainability, the lack of ingredient transparency or verifiable certifications reflects how design elements are used to suggest rather than substantiate environmental integrity—ultimately contributing to greenwashing.

Likewise, the size and structural design of these ten energy drinks contribute to greenwashing strategies by subtly reinforcing impressions of health, naturalness, and environmental consciousness through visual semiotics. *Red Bull The Green Edition Energy Drink* retains the typical slim energy drink format but enhances its green visual presentation to foreground eco-friendly associations, while the small bull icon maintains brand recognition without drawing attention to the product's artificial content. *Nestlé Milo Active Go* features a 240ml container that suggests portion control and health-conscious consumption, supported by a prominent athletic figure that visually connects the drink to an active, wholesome lifestyle. *Java Monster Irish Crème* employs a tall,

sleek can—common in energy beverages—but enhances its surface with handcrafted tribal-like motifs and a large claw mark across a green backdrop, invoking a raw, natural energy ethos that contrasts with its synthetic formulation. *Rip It Energy Fuel* uses a larger 16-ounce size to offer greater volume while prominently displaying watermelon imagery and fruit motifs, visually aligning the drink with freshness and plant-based nutrition. *V Energy Drink* maintains a standard 250ml size with minimalist visuals, relying instead on its green tones and simple patterns to evoke natural vitality. In contrast, *Sting Energy Drink* retains the typical size but shifts focus to aggressive graphics, such as a scorpion-like symbol and electric visuals, constructing an identity rooted in strength and stimulation rather than nature. *Nestlé Fruita Vital Peach* uses a standard-sized can but features a vibrant, realistic peach image, visually implying fruit-based authenticity. *Rockstar Revolt Green Apple Energy Drink* employs a camouflage motif and bold revolt branding to suggest nature-linked defiance and energy, while its packaging size aligns with the typical energy drink aesthetic. *Schweppes Original Ginger Ale* preserves a classic can size but incorporates a clean design with a dotted fountain symbol, subtly referencing spring water and purity, despite being mass-produced. *Mtn Dew AMP Energy Drink* adopts a slightly taller can to convey premium quality, dominated by a bold lemon image and curving background lines that reference freshness and botanical essence. Collectively, these products standardize portion sizes to maintain consumer familiarity and convenience, yet manipulate visual hierarchies—through color, symbolism, and layout—to project an image of eco-consciousness and health. Viewed through the semiotic lens of the Tanz Model of Eco-Critical Discourse (TMED), such design strategies contribute to a greenwashed narrative, where surface aesthetics communicate sustainability and purity more than the products' actual content or production practices justify.

Furthermore, the font styles and typographic arrangements used on the packaging of these ten energy drinks function as semiotic tools to support greenwashing strategies by foregrounding concepts of naturalness, vitality, and authenticity. *Red Bull The Green Edition Energy Drink* employs a bold, minimalist sans-serif font for *Green Edition*, enlarged and centered to visually anchor eco-friendliness and freshness, while smaller, lighter fonts used for supporting phrases such as *Energy Drink* and *Vitalizes Body and Mind* receive less visual emphasis, thereby reducing focus on the product's processed nature. *Nestlé Milo Active Go* highlights the word *Milo* in thick, dynamic lettering that

conveys strength and energy, while health-related descriptors such as *Active Go* appear in a smaller, cleaner font, subtly directing attention away from the drink's sugar content. *Java Monster Irish Crème* integrates blackletter-style fonts for *Irish Crème*, evoking traditional, heritage-rich connotations, while distressed, textured fonts for *Java Monster* contribute to an artisanal aesthetic. These are juxtaposed with bold sans-serif typography for *Coffee + Energy* to ensure legibility and contemporary appeal. *Rip It Energy Fuel* uses an italicized, tech-inspired sans-serif typeface for its brand name, which conveys energy and movement, complemented by stylized, playful fonts for flavor descriptors like *Melon H.I.* that reinforce youthfulness and natural associations. *V Energy Drink* opts for a sharp, angular font for its *V* logo to project modernity and intensity, while auxiliary terms such as *Original* and *Guarana Energy Drink* appear in straightforward, capitalized sans-serif fonts that support its natural energy image. *Sting Energy Drink* employs a jagged, aggressive font for *Sting* to emphasize stimulation and boldness, with secondary text in uniform sans-serif fonts for clarity without distracting from the core branding. *Nestlé Fruita Vital Peach* uses bold, rounded sans-serif fonts for *Fruita Vitals* to highlight wellness and fruit-based nutrition, while elegant, lowercase fonts for terms like *sparkling* introduce sophistication, and minimal, fine print for ingredients redirects attention away from processing details. *Rockstar Revolt Green Apple Energy Drink* pairs assertive, uppercase fonts for *Rockstar* with simpler sans-serif fonts for descriptors such as *Green Apple*, balancing visual strength with an impression of straightforwardness and trust. *Schweppes Original Ginger Ale* features a clean sans-serif type for *Ginger Ale*, reinforcing simplicity and clarity, while cursive scripts for *Original* and the *Schweppes* brand name add a nostalgic, heritage-oriented touch that subtly suggests authenticity. Lastly, *Mtn Dew AMP Energy Drink* uses a bold, angular font for *AMP* to convey dynamism, while smaller sans-serif fonts for claims like *Caffeine + B-Vitamins* add a clinical, science-backed tone that reinforces credibility. In aggregate, these typographic strategies—through font hierarchy, size, and style—construct a narrative of health, purity, and environmental consciousness, visually supporting greenwashing by prioritizing symbolic appeal over factual transparency about ingredient integrity and sustainability.

4.2.1.2 Linguistic Analysis of Energy Drink Type

In continuation of greenwashing practices, the linguistic choices on the packaging of energy drinks such as *Red Bull The Green Edition*, *Nestlé Milo Active Go*, *Java Monster Irish Crème*, *Rip It Energy Fuel*, and others reflect a deliberate use of language

to construct narratives of health, vitality, and naturalness. For instance, *Red Bull The Green Edition* employs the phrase *The Green Edition*, which functions as a green word that symbolically connects the product to environmental sustainability, despite no explicit proof of such attributes. Similarly, the use of *dragon fruit* evokes an exotic, plant-based ingredient, while the word *vitalizes* metaphorically implies rejuvenation and health enhancement without measurable claims. In *Nestlé Milo Active Go*, terms like *active go* and *protomalt* serve as green metaphors, associating the product with movement and strength, though their meanings remain undefined. Furthermore, phrases like *vitamins* and *minerals* reinforce nutritional value rhetorically, even when such elements may be present in negligible amounts. *Java Monster Irish Crème* uses *Java* as a green word to invoke connotations of organic coffee culture, and *Irish Crème* to lend the drink an aura of authenticity and artisanal quality. *Rip It Energy Fuel* incorporates terms like *energy fuel* and *G.O.A.T.* (greatest of all time), which metaphorically equate the drink to athletic superiority, while visual mentions of *watermelon* and *naturally flavored* imply natural content, though without transparency about ingredient sourcing. Similarly, *V Energy Drink* promotes *guarana* as a botanical stimulant, aligning the product with natural energy sources, despite potentially low concentrations. *Sting Energy Drink* uses the metaphor *sting* to evoke sharp energy delivery, reinforcing strength and speed, although its synthetic formulation is not emphasized. *Nestlé Fruita Vitals Sparkling* combines *fruita* and *vitals* to suggest fruit-derived nutrition and wellness, even though the actual juice content remains unclear. *Rockstar Revolt Green Apple* makes linguistic use of terms such as *guarana*, *taurine*, and *ginseng*, projecting natural, performance-enhancing benefits, while *revolt* and *rockstar* act as metaphors for rebellion and power, reinforcing a youthful, energetic brand identity. *Schweppes Original Ginger Ale* utilizes the word *original* to imply authenticity and tradition, yet the ambiguity surrounding the naturalness of its ginger content adds to the greenwashing narrative. Likewise, *Mtn Dew AMP Energy Drink* employs common energy-related green terms such as *caffeine* and *B-vitamins*, which are widely present in processed beverages, while the term *original* contributes to a constructed sense of purity. Collectively, these linguistic strategies—including green words, metaphors, and vague health-related terminology—enhance the eco-conscious and wellness-oriented image of the products without offering concrete, verifiable evidence, thereby contributing to discursive greenwashing as outlined in the TMED model.

4.2.2 Fruit Juices

The Fruit Juices sub-category consists of ten widely recognized products, including Nestle Fruita Vitals Chaunsa, Slice Mango, Shezan All Pure Mango, Fresher Mango Juice, Maaza Mango, Shezan Twist Lychee, Cappy Pulpy Orange, Mepro Grewia Berry Juice & Basil Seed, Vivo Peach, and Rauch White Grape. These beverages are often marketed as natural and healthy refreshments, with an emphasis on fresh fruit content and nutritional benefits. Employing green marketing strategies, fruit juice brands highlight organic ingredients, sustainable sourcing, and eco-conscious packaging. Through an analysis of their visual and linguistic elements, this study investigates how these fruit juices construct an environmentally friendly image to attract health-conscious and eco-aware consumers. Following is the image of front labels of these ten fruit juice products:

Figure 4.6

Fruit Juices



Note. Selected fruit juice products analyzed for visual and linguistic greenwashing strategies. Packaging designs were examined for color, shape, imagery, and label language to assess their role in constructing an eco-friendly or natural product image.

4.2.2.1 Semiotic Analysis of Fruit Juices

This section examines how visual signs and symbolic elements on fruit juice packaging are employed to project naturalness, freshness, and eco-friendliness—often without substantial backing. These semiotic cues are central to greenwashing practices that influence consumer perception.

The packaging and labeling of these juice products use semiotic strategies that often align with greenwashing. For instance, many brands employ visual elements such as leaf motifs, ripe mango imagery, and transparent sections to convey freshness and nature. Products like *Nestlé Fruita Vitals*, *Slice Mango*, and *Shezan All Pure* use such visuals, alongside terms like *nectar* and *fruit drink*, which may mislead consumers about the actual juice content or fruit concentration. Similarly, *Fresher Mango Juice* and *Maaza Mango* use condensation droplets, vibrant fruit visuals, and seals like *premium quality* to evoke authenticity and natural origin, even when sourcing information is unclear or unspecified. *Shezan Twist Lychee* and *Cappy Pulpy Orange* emphasize fruit pulp, bold fruit slices, and eco-symbols such as recycling icons, which help project an environmentally responsible image, while broader environmental impacts remain undisclosed. *Mepro Grewia Berry Juice & Basil Seed*, packaged in a glass bottle with visible basil seeds, aligns more closely with eco-friendly ideals, but still employs design techniques that heighten its natural appeal. Likewise, *Vivo Peach* and *Rauch White Grape* use heritage-inspired labels, soft color palettes, and fruit imagery to suggest authenticity and purity, though these cues may not reflect the true ecological or ingredient transparency. Overall, these semiotic tactics construct a visual narrative of health and sustainability that may not always align with the product's actual environmental impact, revealing how brands capitalize on consumer associations with nature.

Also, the shapes and structural designs of these fruit juice products reinforce greenwashing strategies by visually suggesting naturalness, freshness, and eco-conscious values—often without substantive environmental backing. *Nestlé Fruita Vitals Chaunsa* and *Cappy Pulpy Orange* feature curved, ergonomic bottle shapes with textured surfaces that mimic organic forms, promoting a nature-inspired aesthetic. However, their plastic packaging contradicts the very eco-friendly image they attempt to project. *Slice Mango* and *Shezan All Pure Mango* utilize rectangular tetra packs for practicality but enhance them with soft, flowing lines and leaf motifs, subtly reinforcing associations with purity and sustainability. Similarly, *Fresher Mango Juice* and *Maaza Mango* adopt curved bottle

designs and dynamic swirling patterns that evoke freshness and fluidity, contributing to a perception of vitality and natural quality. *Shezan Twist Lychee* and *Vivo Peach* incorporate rounded imagery and smooth contours that reflect fruit-like abundance, yet the plastic material again undermines these ecological impressions. *Mepro Grewia Berry Juice & Basil Seed*, housed in a curved glass bottle with visible seeds, presents a stronger alignment with eco-conscious branding, offering both visual and material semiotic cues associated with authenticity. *Rauch White Grape*, on the other hand, employs a sleek cylindrical aluminum can with minimalist organic shapes that suggest heritage and natural quality, while also offering a more recyclable format. Collectively, these shape and design choices aim to reinforce a green narrative, but in most cases, the continued reliance on plastic packaging reveals unhook between the visual symbolism of nature and the reality of environmental sustainability.

In addition, the color schemes of these juice products are deliberately designed to communicate freshness, naturalness, and premium quality, thereby reinforcing greenwashing strategies. *Nestlé Fruita Vitals Chaunsa* and *Slice Mango* prominently feature vibrant yellow and orange hues associated with ripe mangoes and tropical freshness, while green accents subtly invoke notions of natural ingredients and eco-consciousness. Red caps and black borders add a touch of sophistication, enhancing the illusion of a high-quality, natural product. *Shezan All Pure Mango* adopts a clean white background and soft green motifs to suggest purity and environmental friendliness; however, the understated *nectar* label may obscure the actual fruit content. *Fresher Mango Juice* and *Maaza Mango* utilize transparent bottles to highlight the bright color of the liquid, supported by green accents to signal authenticity and natural appeal. *Shezan Twist Lychee* combines red, white, and green in a way that emphasizes fruit freshness and health benefits, while the black background adds a premium aesthetic. *Cappy Pulpy Orange* reinforces energy and vitality through bold orange tones, complemented by deep green and gold, even as its plastic packaging contradicts the environmental message. *Mepro Grewia Berry Juice & Basil Seed* incorporates a palette of rich purples, pinks, and greens to highlight exotic fruit and premium positioning, while *Vivo Peach* combines soft peach tones with navy blue and green to suggest freshness and trust. Lastly, *Rauch White Grape* blends muted yellows, greens, and darker tones to evoke a sense of heritage and natural origin, with white elements adding a sense of clarity and simplicity. While these color schemes effectively tap into eco-friendly visual cues, they often lack substantive

backing, relying on color psychology to construct an environmentally responsible image that may not align with the product's actual ecological impact.

Likewise, the packaging sizes and structural designs of these ten juice products incorporate greenwashing strategies by manipulating size cues and visual symbolism to promote a sense of eco-friendliness and natural authenticity. *Nestlé Fruita Vitals Chaunsa* employs a standard-sized PET bottle that combines practicality with large fruit imagery, projecting an impression of freshness and real fruit content. *Slice Mango* utilizes a single-serve tetra pack, enhanced by splash visuals and vivid mango graphics, to suggest immediacy, purity, and freshness. *Shezan All Pure Mango*, presented in a one-liter family-sized carton, capitalizes on the *All Pure* label and nature-themed motifs to evoke trust in its purity and sustainability—despite the lack of ingredient transparency. Similarly, *Fresher Mango Juice* and *Maaza Mango* both use transparent one-liter bottles to symbolize openness and authenticity, with dense fruit visuals reinforcing the perception of abundance and natural origin.

Shezan Twist Lychee adopts a small, personal-sized bottle adorned with lychee illustrations and natural landscape backdrops, appealing to eco-conscious consumers through compactness and nature-themed design. *Cappy Pulpy Orange*, packaged in a 250ml bottle, uses enlarged orange slices and visible pulp elements to convey a sense of real fruit and vitality, while reinforcing notions of health and convenience. *Mepro Grewia Berry Juice & Basil Seed*, presented in a 290ml glass bottle, further aligns with eco-symbolism by showcasing visible seeds and clustered berries, which emphasize authenticity and freshness. *Vivo Peach*, with its portable bottle size, relies on soft peach visuals and clean, minimalistic labeling to enhance the product's natural and health-oriented appeal. Finally, *Rauch White Grape*, sold in a standard aluminum can, uses structured grape cluster imagery and vertical design alignment to communicate heritage, quality, and natural origins. Collectively, these design strategies manipulate size-related expectations and semiotic cues to project an idealized image of environmental responsibility and natural content—often without substantiating these claims, thereby contributing to subtle yet effective greenwashing.

Most importantly, the typography across these ten fruit juice products is deliberately crafted to shape consumer perception by reinforcing brand identity, emphasizing product qualities, and contributing to a narrative of naturalness and trust. *Nestlé Fruita Vitals Chaunsa* utilizes bold, capitalized sans-serif fonts for *Fruita Vitals*, suggesting premium quality and vitality, while smaller, clean fonts for the flavor variant

ensure a modern, uncluttered appearance. *Slice Mango* adopts a flowing, handwritten-style script for the brand name to communicate smoothness, freshness, and a sense of playfulness, with secondary product information presented in light, casual fonts. *Shezan All Pure Mango* emphasizes *All Pure* in prominent, heavy fonts to assert purity, while the term *nectar* appears in smaller, less visible print—potentially drawing attention away from its technical implications regarding juice concentration. *Fresher Mango Juice* relies on modern, bold capital letters for brand visibility and uses minimal, straightforward text for ingredient and volume details, enhancing visual impact.

Maaza Mango features a rounded, friendly script for *Maaza*, paired with bold, slightly playful lettering for *Mango*, creating an approachable and refreshing image. *Shezan Twist Lychee* highlights the word *Twist* in a dimensional, energetic font to convey vibrancy, while accompanying text remains understated. *Cappy Pulpy Orange* combines a cheerful script for *Cappy* with large, uppercase fonts for *Pulpy*, emphasizing its unique selling point. *Mepro Grewia Berry Juice & Basil Seed* balances rounded, approachable fonts for the brand name with elegant serif fonts for descriptors, introducing a sense of tradition and refinement. *Vivo Peach* employs bold, dynamic typography for *Vivo*, with minimalist sans-serif fonts for supporting text, reflecting a clean, energetic, and health-conscious appeal. Lastly, *Rauch White Grape* juxtaposes classic, capitalized serif fonts for *Rauch*, evoking heritage, with crisp, modern fonts for the flavor name to maintain clarity and freshness.

Across all products, typographic hierarchies—from bold brand names to minimized ingredient lists—serve not only to guide visual attention but also to subtly support greenwashing by reinforcing associations of quality, naturalness, and authenticity, even where these claims are not fully substantiated.

4.2.2.2 Linguistic Analysis of Fruit Juices

The textual and linguistic elements on the packaging of these ten fruit juice products reveal deliberate greenwashing tactics through the strategic use of green words, metaphors, and idiomatic expressions. These language choices are designed to evoke perceptions of health, nature, and environmental consciousness, often without substantiating the implied claims. *Nestlé Fruita Vitals Chaunsa* employs terms like *vitals* and *positive* as green words that suggest vitality and wellbeing, while the phrase *sip positive* serves as a metaphor, subtly associating the act of drinking with optimism and health. *Slice Mango* uses simple descriptors such as *fruit drink*, and relies on *mango*—a

green word that evokes freshness and tropical authenticity—to imply naturalness, despite the term *fruit drink* denoting a low juice content.

Shezan All Pure Mango highlights *all pure* to suggest health and purity, yet the word *nectar* is placed in a less prominent position, which may obscure its technical implication of reduced juice concentration. *Fresher Mango Juice* uses *fresher* as a green word to evoke natural quality and immediacy, paired with bold typography that reinforces a simple and clean message. *Maaza Mango* also capitalizes on *mango* as a green word to promote the product's tropical and natural appeal. *Shezan Twist Lychee* introduces the word *twist*—an idiomatic expression conveying excitement or innovation—while *lychee* strengthens the fruit-based, natural perception.

Cappy Pulpy Orange uses *pulpy* as a green word to suggest authenticity and closeness to whole fruit. Claims like *80% of your recommended daily allowance of vitamin C* imply health benefits, yet may not reflect the product's overall nutritional integrity. *Mepro Grewia Berry Juice & Basil Seed* includes *grewia berry* and *basil seed* as exotic green words, contributing to a perception of natural richness and uniqueness. *Vivo Peach* keeps its language minimalistic but uses *peach* to emphasize fruit content and freshness. Finally, *Rauch White Grape* leverages *white grape* as a green word and phrases like *seit 1919* (since 1919) to suggest heritage and authenticity, reinforcing a natural image through tradition.

Overall, these packaging strategies rely on suggestive language—particularly green words, metaphorical phrases, and idioms—to construct narratives of naturalness, purity, and health. These rhetorical choices, though often unverified or loosely defined, serve to align the products with greenwashing practices by shaping consumer perception in the absence of transparent or scientifically supported claims.

4.2.3 Ghee and Cooking Oils

The Ghee and Cooking Oils is another sub-category of food and beverages features ten notable products, including Eve Premium Quality VTF Banaspati, Kisan Banaspati, Seasons Banaspati, Soya Supreme Banaspati, Kashmir Banaspati Gold, Sufi Sunflower Cooking Oil, Dalda Fortified Sunflower Cooking Oil, Mezan Cooking Oil, Kisan Super Cooking Oil, and Habib Banaspati. These products are essential kitchen staples and are frequently marketed for their purity, health benefits, and superior quality. Incorporating green marketing practices, these brands emphasize natural ingredients, sustainability in production, and environmentally friendly packaging. This study analyzes

the visual and linguistic elements of these products to understand how they construct a health-conscious and eco-friendly image to appeal to environmentally aware consumers. Following figure demonstrates the front labels of these ten ghee and cooking oil products:

Figure 4.7

Ghee and Cooking Oils



Note. This image displays ten popular ghee and cooking oil products available in the local market, analyzed in this study for their semiotic and linguistic features related to greenwashing strategies.

4.2.3.1 Semiotic Analysis of Ghee and Cooking Oils

Using the Tanz Model of Eco-Critical Discourse Analysis (TMED), this section examines how the semiotic elements of ghee and cooking oil packaging construct misleading narratives of naturalness and eco-consciousness. The packaging of products like *Eve Premium Quality VTF Banaspati* and *Seasons Banaspati* utilizes imagery such as green leaves, sunrays, and wellness-related icons to evoke perceptions of health and environmental friendliness, despite the processed nature of the product. *Kisan Banaspati*

and *Kashmir Banaspati Gold* incorporate mountain landscapes and green color schemes, which semantically link the product to purity and pastoral simplicity. Similarly, *Soya Supreme Banaspati* and *Mezan Cooking Oil* display scientific phrases such as *unit treated* and *100% naturally sourced*, which imply technological advancement or natural origin, yet lack verification through credible certifications. *Sufi Sunflower* and *Dalda Fortified Sunflower Cooking Oil* use sunflower imagery and emphasize vitamin fortification (A & D), projecting a nutritious and plant-based identity that contrasts with the industrial processes behind these oils. *Habib Banaspati* employs heart symbols and cholesterol-drop icons to signal cardiovascular benefits, presenting a health-focused narrative that is semiotically strong but nutritionally contestable. Phrases like *virtually trans-fat free* and *immunity booster plus* further reinforce this perception, using powerful visual and linguistic signs to support greenwashed identities. Through TMED, these visual tactics reveal how eco-semiotic cues—like natural imagery, color coding, and health-related icons—contribute to an idealized representation of sustainability and wellness, while obscuring the true environmental and nutritional profiles of these products.

Building upon the semiotic dimension of the Tanz Model of Eco-Critical Discourse Analysis (TMED), the shapes and imagery on the packaging of these ten ghee and cooking oil products further demonstrate how greenwashing is subtly enacted through design choices that evoke naturalness, health, and sustainability. For example, *Eve Premium Quality VTF Banaspati* features heart symbols, leaf shapes, and cup illustrations alongside imagery of a caring family—all of which create an emotional appeal to health and domestic well-being, despite the product's industrial formulation. *Kisan Banaspati* employs a circular label reminiscent of food tins, decorated with palm fruit and flower shapes to reinforce a traditional, nature-linked identity. Similarly, *Seasons Banaspati* integrates butterfly and leaf graphics within a rectangular format to visually associate the product with nature and purity. *Soya Supreme Banaspati* reinforces this strategy through the placement of a prominent green leaf, signaling plant-based quality without certifiable backing. *Kashmir Banaspati Gold* uses landscapes with grass and trees, along with a circular emblem, to emphasize rural freshness and purity.

Sufi Sunflower Cooking Oil adopts green grass imagery and bright sunflowers to communicate health-consciousness and botanical sourcing, even as it relies on plastic packaging. *Dalda Fortified Sunflower Cooking Oil* incorporates practical ergonomic elements like a handle and red cap, but visually supports its green narrative through

sunflower and leaf motifs. *Mezan Cooking Oil* pairs soft-edged rectangular packaging with green leaves and floral designs, contributing to an approachable, eco-friendly persona. Likewise, *Kisan Super Cooking Oil* blends octagonal bottle design with sunflower illustrations to combine premium aesthetics with natural suggestions. Finally, *Habib Banaspati* features heart icons, spoonful-of-ghee visuals, and palm trees—symbols that imply nourishment and tropical natural origin—without transparency about actual sourcing or production impact.

Through the TMED lens, these shape and imagery choices function as semiotic tools to construct an illusion of sustainability and health, while often failing to reflect the products' true ecological or nutritional realities. Such visual strategies reinforce greenwashing by capitalizing on consumer associations with nature, tradition, and wellness.

Extending the semiotic analysis within the TMED framework, the color schemes of these ten ghee and cooking oil products further reinforce greenwashing strategies by visually communicating messages of health, freshness, and environmental responsibility. *Eve Premium Quality VTF Banaspati* adopts a dominant yellow and red palette—colors typically associated with energy, warmth, and vitality—while white, blue, and golden-brown accents lend a sense of natural richness and indulgence. In a similar vein, *Kisan Banaspati* employs bright red and yellow tones to evoke vibrancy and nourishment, with deeper maroon and green hues subtly invoking tradition and nature.

Seasons Banaspati integrates yellow, green, and red in combination with nature-inspired symbols such as blue butterflies and golden-brown leaves, crafting an overall impression of wholesomeness and eco-consciousness. *Soya Supreme Banaspati* also relies on a triadic blend of yellow, red, and green—where yellow and red emphasize vitality and taste appeal, and green is strategically placed to imply freshness and plant-based purity. *Kashmir Banaspati Gold* uses a similar scheme, dominated by yellow and green to suggest sunlight and nature, while a central white circle reinforces ideas of purity and simplicity.

Sufi Sunflower Cooking Oil combines green, yellow, and white to project environmental harmony, freshness, and clarity, with golden sunflower imagery reinforcing natural sourcing. *Dalda Fortified Sunflower Cooking Oil* leans into yellow and red tones for warmth and visibility, enhanced by green leaf motifs that suggest plant-

based benefits. *Mezan Cooking Oil* features green, yellow, and red, with the green-yellow pairing emphasizing natural freshness and the red adding commercial appeal. *Kisan Super Cooking Oil* introduces blue into the mix—symbolizing clarity and purity—alongside yellow for nature and green for eco-friendliness. *Habib Banaspati* focuses on green and gold to signal quality and naturalness, supported by colorful vitamin icons (red, green, and blue) that visually emphasize health benefits.

Collectively, these color palettes function as visual cues that influence consumer perception by symbolizing vitality, cleanliness, and environmental integrity. However, under the TMED model, such strategies are identified as greenwashing techniques, where visual semiotics are employed to construct an eco-friendly brand image that is often disconnected from the actual environmental or nutritional profile of the products.

Together with visual symbols and color schemes, the size and packaging formats of these ghee and cooking oil products further contribute to greenwashing practices, as identified within the semiotic layer of the TMED model. Most products—such as *Eve Premium Quality VTF Banaspati*, *Seasons Banaspati*, *Kashmir Banaspati Gold*, *Sufi Sunflower Cooking Oil*, *Soya Supreme Banaspati*, and *Habib Banaspati*—are packaged in standard 1 kg plastic packets. These sizeable, convenient formats are often adorned with natural imagery including leaves, sunflowers, butterflies, and mountainous landscapes, collectively crafting an illusion of eco-friendliness. However, the extensive use of plastic contradicts these visual cues, thereby revealing a gap between visual promise and material reality.

For instance, *Kisan Banaspati*, *Kisan Super Cooking Oil*, and *Mezan Cooking Oil* incorporate packaging designs that prominently feature leaves, palm fruit, and floral motifs—semiotic signs that suggest naturalness, freshness, and sustainability. Likewise, *Dalda Fortified Sunflower Cooking Oil* employs a clear plastic bottle with a built-in handle, complemented by sunflower visuals to reinforce the idea of plant-based purity. *Sufi Sunflower Cooking Oil* also uses similar floral and agricultural motifs on its flexible pouch, drawing consumer attention toward natural ingredients and health-focused messaging.

These choices in packaging design and size reinforce visual narratives of abundance, wholesomeness, and natural origin. However, under critical semiotic scrutiny, they exemplify greenwashing, as the environmental implications of plastic packaging

stand in direct contradiction to the eco-friendly image projected through size, structure, and visual symbolism. Thus, the packaging functions not merely as a container but as a communicative device that shapes consumer perception—often at the cost of environmental truth.

Lastly, the typography and textual hierarchy observed on the packaging of these ten ghee and cooking oil products further reinforce semiotic greenwashing strategies, as conceptualized within the TMED model. Brands like *Eve Premium Quality VTF Banaspati* and *Kashmir Banaspati Gold* employ bold, serif fonts that evoke tradition, heritage, and reliability—semiotic cues that align with perceptions of artisanal quality and time-tested purity. In contrast, *Soya Supreme Banaspati*, *Sufi Sunflower Cooking Oil*, *Seasons Banaspati*, and *Dalda Fortified Sunflower Cooking Oil* utilize bold, sans-serif fonts to create a modern, clean, and health-oriented aesthetic, subtly targeting eco-conscious consumers through design minimalism.

A consistent typographic pattern across all products involves the use of large, prominent fonts for brand names and key claims (e.g., 100% Natural, Fortified with A & D, or Immunity Booster Plus) to immediately draw consumer attention. Meanwhile, secondary product information is relegated to smaller, less noticeable fonts—suggesting an intentional visual hierarchy that elevates appealing green claims while downplaying less marketable facts, such as ingredient processing or packaging materials.

Brands like *Kisan Banaspati* and *Habib Banaspati* reinforce visibility through clear, bold lettering that enhances shelf presence and brand recall. Coupled with environmentally suggestive words such as *pure*, *healthiest*, or *natural*, this typographic strategy constructs a powerful narrative of health and sustainability. However, these visual cues often operate independently of the actual environmental performance of the products, particularly given their common use of non-recyclable plastic packaging and industrial production methods.

Thus, the strategic deployment of font types, sizes, and layout functions not only as a branding tool but also as a semiotic mechanism to mislead—amplifying the illusion of eco-consciousness without offering tangible evidence. This reinforces the greenwashing phenomenon by shaping consumer perception through form rather than substantiated environmental substance.

4.2.3.2 Linguistic Analysis of Ghee and Cooking Oil

In addition to semiotic cues, the language featured on these ten ghee and cooking oil products plays a crucial role in constructing eco-friendly and health-oriented identities—often without sufficient factual basis. Through the lens of the TMED model, particularly its linguistic component, it becomes evident that these brands employ a combination of green words, metaphors, and idiomatic phrases to subtly promote perceptions of naturalness, health, and sustainability.

For example, *Eve Premium Quality VTF Banaspati* uses terms such as *virtually trans-fat free* and *naturally cholesterol free*—both green words that suggest health benefits without quantifying their claims. The metaphor *smart heart friendly blend* positions the product as cardiovascular supportive, while the phrase *processed under European VTF technology* adds a layer of scientific authority, though it may not guarantee environmental responsibility.

Kisan Banaspati repeats similar linguistic strategies by using *virtually trans-fat free* as a health-oriented green word, and *established since 1985* as an idiom that builds brand legacy and trustworthiness. Meanwhile, *Seasons Banaspati* incorporates *the healthiest banaspati* and *state-of-the-art processing*—phrases that mix green words with metaphorical representations of quality and innovation, albeit without clear evidence of sustainability.

In *Soya Supreme Banaspati*, expressions like *soft granular texture* and *melts at body temperature* function as metaphors that liken the product's physical properties to something organic or body-compatible. The label *prepared from 100% vegetable oils* reinforces a plant-based narrative, acting as a classic green word that aligns with nature-oriented branding.

Likewise, *Kashmir Banaspati Gold* uses metaphorical language like *Meta Boost* to imply enhanced vitality and *enriched with micro-nutrients* to frame the product as nutrient-dense—both of which are typical examples of green marketing terminology. *Sufi Sunflower Cooking Oil* includes *no cholesterol added* and *fortified with vitamins A & D*, green words that imply healthfulness, while the idiom *guaranteed quality* suggests reliability.

Dalda Fortified Sunflower Cooking Oil emphasizes health-focused terminology such as *cholesterol free* and *fortified*, avoiding overt metaphor but nonetheless relying on

persuasive health vocabulary. *Mezan Cooking Oil* uses *100% naturally sourced* and *natural power of tocopherol* as green descriptors, with the phrase *immunity booster plus* working metaphorically to liken the product to a supplement. Health-centric expressions like *healthy bones & strong muscles* also combine metaphor with green word techniques.

In *Kisan Super Cooking Oil*, claims like *UHT (ultra-high temperature) fortified with vitamin A & D* draw on scientific-sounding green words, while the idiom *established since 1985* reinforces consumer confidence through heritage. Finally, *Habib Banaspati* features the claim *virtually trans-fat free* and uses the metaphor *heart core benefits*, further positioning the product as aligned with wellness.

Overall, while these linguistic choices successfully craft an image of health, natural quality, and environmental friendliness, they often lack transparency and measurable backing. Under the TMED framework, this strategic use of unverified green claims contributes significantly to greenwashing, shaping consumer perception without delivering on ecological or health-related promises.

4.2.4 Honey

The Honey is another sub-category includes ten popular products, namely Hamdard Honey, Qarshi Honey, Marhaba Honey, Langnese Pure Bee Honey, Salman's Pak Honey, HibaLife Orange Honey, Young's Bee Hive Natural Honey, Al Shifa Natural Honey, The Natural Swat Bee Honey, and Hashmi Honey. These products are often marketed as natural and health-enhancing, with a focus on purity, organic sourcing, and nutritional benefits. Leveraging green marketing strategies, honey brands emphasize sustainable beekeeping practices, eco-friendly packaging, and natural ingredients. This study examines the visual and linguistic elements of these honey products to explore how they promote an environmentally conscious and health-centric image to attract eco-aware and health-conscious consumers. The following figure represents front labels of honey:

Figure 4.8*Honey*

Note. This image displays the packaging of ten commercially available honey products analyzed in this study, including both local and international brands. The visual selection was used to examine semiotic and linguistic elements related to greenwashing strategies.

4.2.4.1 Semiotic Analysis of Honey

To explore how visual strategies contribute to greenwashing in honey packaging, the following analysis draws on the semiotic component of the Tanz Model of Eco-Critical Discourse Analysis (TMED). This model enables a critical reading of how signs and symbols are employed to construct eco-friendly identities for products. The packaging of these ten honey products employs various semiotic techniques that suggest authenticity, naturalness, and ecological purity; however, many of these cues may serve as tools of greenwashing. Signs such as honeycomb patterns, bee imagery, dripping honey visuals, and floral motifs are prominently used across brands like *Hamdard*, *Salman's*, and *Hashmi Honey* to build an organic narrative. Claims like *100% natural* and *pure & natural* function as visual badges of credibility, but often lack verifiable sourcing or certification. Logos such as NSBH on *The Natural Swat Bee Honey* project legitimacy,

yet their standards and transparency remain unclear. Cartoon bees on *Qarshi* and *Marhaba Honey* appeal to emotional trust, while heritage phrases like *legacy of 100 years* (Hamdard) or *since 1983* (Al Shifa) create nostalgic authenticity without necessarily reflecting sustainable production. Additional symbols like green leaves and floral borders amplify this natural imagery, though they may obscure less eco-friendly realities. Through the lens of TMED's semiotic layer, it becomes evident that these packaging designs often employ symbolic language to construct a façade of environmental responsibility—exemplifying how greenwashing operates through visual discourse.

Continuing the semiotic analysis under TMED, the shapes and packaging designs of these ten honey products employ ergonomic and traditional elements that visually reinforce narratives of authenticity, purity, and eco-consciousness. Curved and rounded bottle forms, as seen in *Hamdard*, *Salman's*, and *Langnese Honey*, communicate softness, comfort, and familiarity—qualities culturally associated with natural and wholesome products. Similarly, squeeze bottle formats imply modern convenience and ease-of-use, yet they obscure the environmental implications of single-use plastic. Hexagonal labels and embossed honeycomb designs, used by brands like *Qarshi*, *Langnese*, and *Hashmi Honey*, symbolically reference the beehive structure to affirm authenticity, despite limited or absent evidence of ethical beekeeping or sustainable sourcing. The use of traditional jar shapes in products such as *HibaLife*, *Al Shifa*, and *The Natural Swat Bee Honey* evokes heritage and artisanal values, subtly encouraging trust, even though transparency regarding ecological practices remains minimal. Visual enhancements such as gold bands, metallic caps, or embossed seals—as featured on *Qarshi* and *Langnese Honey*—suggest luxury and premium quality, which may further divert attention from the lack of verified eco-credentials. Within TMED's semiotic dimension, these shape-based cues function as strategic aesthetic devices that construct a natural identity for the product. However, when such symbols are not supported by concrete environmental practices, they contribute to the overall mechanism of greenwashing by packaging perception over substance.

Within the TMED framework's semiotic dimension, the color palettes adopted by these ten honey products subtly shape consumer perceptions of purity and environmental integrity, often without offering substantiated ecological backing. Brands such as *Hamdard*, *Marhaba*, and *Langnese* prominently feature golden amber, deep yellows, and rich browns—tones naturally associated with raw honey—to reinforce a sense of authenticity and unprocessed quality. Meanwhile, hints of green found in the branding of

Hamdard, *Salman's*, and *HibaLife* evoke associations with eco-friendliness and plant-based origins, yet these chromatic choices are often more symbolic than reflective of verified sustainability practices. Red and gold detailing, as seen in *Qarshi*, *Langnese*, and *Salman's Honey*, connotes luxury and heritage, positioning the product as high quality while distracting from possible environmental shortcomings. Several products also use clean white backgrounds, which visually elevate legibility while tapping into broader cultural associations of cleanliness and health. The transparency of jars and bottles, allowing the honey's amber hue to show through, adds to the perception of purity and natural sourcing. However, as TMED emphasizes, these color strategies act as persuasive semiotic devices that visually align the product with eco-conscious ideals—without necessarily supporting those claims through transparent labeling or verified green practices. In doing so, these choices risk contributing to greenwashing by reinforcing an environmentally responsible image through aesthetic rather than substantive means.

Moreover, the physical form and spatial presentation of honey packaging across these ten products play a subtle yet powerful role in shaping consumer perceptions of naturalness and ethical quality—key elements scrutinized under the Tanz Model of Eco-Critical Discourse Analysis (TMED). Brands like *Hashmi*, *Al Shifa*, and *The Natural Swat Bee Honey* use large jars and bottles that visually imply generosity, purity, and high value, despite offering no explicit evidence of sustainable sourcing or environmentally responsible production. Common household sizes, such as those used by *Qarshi*, *Langnese*, and *HibaLife*, are designed for everyday use, promoting practicality and accessibility, yet may obscure the ecological costs tied to large-scale manufacturing and packaging waste. Transparent bottles—employed by most of these brands—reinforce the idea of purity by showcasing the golden hue of the honey, but this visibility often functions as a semiotic shortcut, giving the illusion of authenticity without revealing the production realities behind it. In products like *Salman's* and *Marhaba Honey*, carefully balanced label placements and proportions offer a polished, nature-aligned look that visually harmonizes with themes of health and simplicity. While these packaging sizes and formats enhance marketability, they also risk contributing to greenwashing by suggesting environmental integrity without delivering measurable or verifiable eco-friendly outcomes.

Lastly, the typography and font hierarchy used across these ten honey products plays a pivotal role in shaping perceptions of authenticity, purity, and brand trust—elements closely examined under the Tanz Model of Eco-Critical Discourse Analysis

(TMED). *Hamdard Honey* employs bold, sans-serif fonts for the word *honey* to ensure legibility and draw attention to its core identity. *Qarshi Honey* combines prominent bold text with smaller, elegant typefaces to visually elevate claims of heritage and premium quality. *Marhaba Honey* incorporates a blend of decorative script and capitalized fonts to evoke traditional richness and sophistication. Similarly, *Langnese Pure Bee Honey* uses a signature cursive logotype paired with clean capitals, reinforcing a crafted, genuine brand image. *Salman's Pak Honey* leverages stylized, flowing fonts alongside strong bold text to establish a distinct identity, while *HibaLife Orange Honey* opts for modern sans-serif fonts to reflect simplicity and contemporary quality. *Young's Bee Hive Natural Honey* uses bold, upright fonts to signal trust and visibility, whereas *Al Shifa Natural Honey* relies on prominent capital letters to solidify its branding and authenticity. *The Natural Swat Bee Honey* and *Hashmi Honey* employ a combination of stylized and legible typefaces, striking a balance between visual appeal and product clarity. Across all products, font choices and hierarchies are strategically curated not only for aesthetic coherence but also to foster a perception of naturalness and trustworthiness. While most remain within the boundaries of clear communication, their role in reinforcing brand narratives that may or may not reflect true sustainability calls for critical eco-discursive evaluation, as outlined in the TMED framework.

4.2.4.2 Linguistic Analysis of Honey

In alignment with the Tanz Model of Eco-Critical Discourse Analysis (TMED), the linguistic elements displayed on honey packaging reveal the use of specific lexical choices that promote a natural and eco-friendly image, often aligning with greenwashing strategies. Many of the ten honey brands utilize green words—vague yet appealing terms that evoke purity, health, or environmental consciousness—without offering concrete evidence of such attributes. For instance, *Hamdard Honey* features the term *100% natural* to suggest authenticity, while *Qarshi Honey* highlights *pure* to imply product purity. *Marhaba Honey* reinforces this claim through the phrase *pure & natural*, and *Langnese Pure Bee Honey* adopts *pure bee honey* to project a sense of traditional, unadulterated quality.

Similarly, *Salman's Pak Honey* and *HibaLife Orange Honey* use phrases such as *100% pure & natural honey* and *100% organic*, which suggest healthfulness and environmentally responsible sourcing but lack clear verification. *Young's Bee Hive Natural Honey* and *Al Shifa Natural Honey* rely on similar terminology, including *100%*

pure and *natural honey*, to appeal to eco-conscious consumers. *The Natural Swat Bee Honey* and *Hashmi Honey* also use phrases like *pure & natural* and *100% pure*, further supporting an image of ecological and nutritional superiority.

From a TMED perspective, these terms serve as discursive tools that construct a narrative of purity and sustainability, potentially masking industrial production methods and the absence of regulatory transparency. While effective in attracting health-conscious buyers, such language may contribute to a greenwashed brand identity by exaggerating the product's actual environmental and natural credentials. Therefore, these linguistic strategies must be critically examined for their role in shaping consumer perceptions and reinforcing idealized yet unverified notions of product authenticity.

4.2.5 Dairy Products

The dairy products category is often marketed as wholesome and sustainable, using linguistic techniques and semiotic cues like *natural* and imagery of green pastures to appeal to consumers. However, such strategies can sometimes mislead through greenwashing—overstating eco-friendliness or health benefits. This analysis examines ten products: Dairy Pure, Nestle Yogurt, Adam's Yoghurt, Nestle Milk Pak Salted Dairy Butter, Mumtaz Spreadable Margarine, Blue Band Margarine Spread, Kraft Processed Cheddar Cheese, Whippy Whip Whipping Cream, Polac Sweetened Condensed Filled Milk, and Young's Maska Breakfast Spread, to uncover how brands construct eco-conscious narratives and evaluate the authenticity of their claims. The succeeding figure consists the front labels of these ten products:

Figure 4.9*Dairy Products*

Note. This image displays ten commonly marketed dairy and dairy-based products in Pakistan, including yogurt, butter, margarine, cheese, cream, condensed milk, and breakfast spreads. The packaging and presentation of these items are analyzed using the Tanz Model of Eco-Critical Discourse Analysis (TMED) to examine potential greenwashing strategies through semiotic and linguistic features.

4.2.5.1 Semiotic Analysis of Dairy Products

The packaging and labeling of these ten dairy products employ a range of semiotic strategies—such as signs, symbols, logos, seals, and visual cues—to construct narratives of quality, naturalness, and consumer trust. Analyzed through the Tanz Model of Eco-Critical Discourse Analysis (TMED), these elements not only contribute to brand identity but also reveal potential greenwashing practices. For instance, Dairy Pure incorporates signs like *Bachat Pack* and *Proudly Pakistani* to emphasize affordability and national pride, while subtly implying trust and purity. *Nestlé Yogurt* relies on a clean, minimalist design and the global Nestlé logo to project brand credibility and transparency. *Adam's Yoghurt* uses scenic landscape imagery to invoke freshness and environmental harmony,

aligning with green values despite lacking evidence of such sourcing. *Nestlé Milk Pak Salted Dairy Butter* uses phrases like *made from natural milk* and traditional dairy iconography to promote purity, while *Mumtaz Spreadable Margarine* includes a rural home and greenery to evoke tradition and simplicity. *Blue Band Margarine Spread* features a smiling woman to suggest family health and positivity, whereas *Kraft Processed Cheddar Cheese* centers its red oval logo and uses *processed* as a regulatory term—yet the emphasis on brand trust may divert attention from the highly processed nature of the product. *Whipy Whip Whipping Cream* includes gold seals and snowflake motifs to symbolize premium quality and freshness, reinforced by the tagline *for the professionals*, which implies high standards. *Polac Sweetened Condensed Filled Milk* presents halal certification, dairy cow visuals, and a *Product of Malaysia* label to enhance its global and natural appeal, though such cues may exaggerate eco-credentials. Similarly, *Young's Maska Breakfast Spread* includes Arabic script, halal logos, and claims like *real butter*, combining cultural cues with health associations. These semiotic elements collectively construct a perception of health, purity, and environmental responsibility. However, without transparent evidence of sourcing or production sustainability, such signs can contribute to greenwashing by reinforcing eco-friendly or natural impressions that may not be substantiated.

Furthermore, analyzed through the Tanz Model of Eco-Critical Discourse Analysis (TMED), the shapes and structural designs of these ten dairy product packages are strategically constructed to enhance consumer appeal while potentially contributing to greenwashing by reinforcing perceptions of naturalness, simplicity, and quality. Dairy Pure employs a standard rectangular package with a milk splash visual, reinforcing dairy freshness through familiar and minimalistic design cues. *Nestlé Yogurt* and *Adam's Yoghurt* adopt cylindrical containers with transparent sections and rounded edges, which convey purity and trust through visual access to the product. *Nestlé Milk Pak Salted Dairy Butter* is presented in a compact rectangular box, combining clarity with storage convenience. *Mumtaz Spreadable Margarine* and *Blue Band Margarine Spread* use rectangular tubs with soft curves and transparent lids, which imply cleanliness and user-friendliness while reinforcing notions of domestic reliability. *Kraft Processed Cheddar Cheese* features an oval container with wave-like design lines and a central red oval logo, projecting smoothness and premium quality through symbolic aesthetics. *Whipy Whip Whipping Cream* utilizes a rectangular gable-top carton, often associated with freshness,

while curved logos and snowflake imagery reinforce chilled quality and professional-grade standards. *Polac Sweetened Condensed Filled Milk* comes in a cylindrical can, with circular halal stamps and dessert visuals that merge regulatory assurance with tradition. Lastly, *Young's Maska Breakfast Spread* is packaged in a soft-edged pouch with an oval logo and butter curl graphics, suggesting indulgence and natural richness. While these design elements serve branding and functionality, they may also contribute to subtle greenwashing by symbolically associating industrial products with eco-friendly, natural, or wholesome characteristics, often without sufficient verification.

Alongside the packaging structure, the color schemes of these dairy products demonstrate strategic semiotic choices that align with nature-oriented branding. According to the TMED framework, these visual elements often contribute to eco-critical misrepresentation by evoking health, purity, and sustainability without clear substantiation. Green is prominently used in *Dairy Pure*, *Mumtaz Margarine*, and *Nestlé Milk Pak Butter*, where it connotes environmental consciousness, healthfulness, and freshness. These associations align with eco-friendly ideals yet may obscure industrial production realities. Blue tones, found in *Nestlé Yogurt*, *Adam's Yoghurt*, and *Blue Band*, signify purity, trust, and cleanliness—qualities traditionally linked with dairy but which, in this context, subtly promote perceived naturalness and hygiene, often disconnected from actual sourcing practices. The use of yellow in *Kraft Cheddar Cheese*, *Polac Milk*, and *Young's Maska Spread* evokes warmth, energy, and nutritional richness, reinforcing appetitive appeal. Meanwhile, red accents—ubiquitous across almost all labels—attract attention and suggest vitality, but may also mask the processed nature of these products. Gold elements, especially in *Whipy Whip* and *Young's Maska Spread*, serve to elevate brand prestige and suggest premium quality, thereby adding symbolic value. Collectively, these color schemes support greenwashing strategies by manipulating visual cues of naturalness and environmental responsibility while avoiding concrete, verifiable eco-friendly commitments—thus fulfilling the visual semiotic layer of TMED.

Just as important, the packaging sizes and spatial hierarchies of these ten dairy products utilize carefully curated visual strategies that may reinforce greenwashing tendencies, particularly when unverified by transparent sourcing or production claims. As outlined in the Tanz Model of Eco-Critical Discourse (TMED), the semiotic dimension of packaging includes spatial cues that shape consumer perceptions of eco-consciousness and natural quality. For instance, *Dairy Pure's* 1-liter rectangular box implies value and environmental responsibility by promoting bulk purchasing and reduced packaging waste,

while its milk splash illustration enhances product recognition and reinforces its dairy identity. *Nestlé Yogurt's* 375-gram container incorporates uplifting sun imagery and minimalistic text, subtly emphasizing freshness and simplicity. *Adam's Yoghurt*, packaged in smaller 150–200 gram units, employs rural landscapes and eco-styled icons, associating the product with purity and nature. Similarly, *Nestlé Milk Pak Salted Dairy Butter* uses a modest 100-gram box adorned with pastoral visuals, constructing a narrative of rural origin and traditional purity.

Mumtaz Spreadable Margarine, in its 500-gram tub, features illustrations of greenery and homely elements, symbolically appealing to environmentally conscious and family-oriented consumers. *Blue Band Margarine Spread*, in a 235-gram pack, combines ergonomic design with cheerful human imagery to project health and familial trust. *Kraft Processed Cheddar Cheese* uses a compact, premium-style container that foregrounds brand identity through bold typography and layered visuals. *Whipy Whip Whipping Cream* is offered in a functional gable-top carton, designed for professional utility, but reinforced with visual cues like gold seals to denote quality and credibility. *Polac Sweetened Condensed Filled Milk* adopts a cylindrical can featuring a prominent cow image, invoking traditional dairy associations. *Young's Maska Breakfast Spread*, housed in a 200-gram pouch, balances curved visuals, butter swirl motifs, and certification icons to promote natural authenticity and halal compliance.

While these spatial and visual strategies strengthen brand appeal, they may also mislead consumers by implicitly suggesting eco-friendliness and purity without empirical evidence—highlighting how spatial semiotics, as addressed in TMED, can be co-opted in service of subtle greenwashing.

Finally, the font types and sizes across these ten products employ visual strategies that may contribute to greenwashing when used to suggest environmental or health benefits without sufficient evidence. Within the framework of the Tanz Model of Eco-Critical Discourse (TMED), typography serves as a visual signifier that influences perceived product authenticity and healthfulness. Products such as *Dairy Pure*, *Nestlé Yogurt*, *Adam's Yoghurt*, and *Nestlé Milk Pak Salted Dairy Butter* employ bold, clean sans-serif fonts, which project clarity, modernity, and trust. These visual traits are strategically combined with lexical cues like *natural* or *made from natural milk* to evoke eco-conscious or health-related associations, even in the absence of transparent sourcing or production evidence.

Other products, including *Young's Maska Breakfast Spread*, *Mumtaz Spreadable Margarine*, and *Polac Sweetened Condensed Filled Milk*, adopt typographic hierarchies that prioritize brand names and selling points—such as *with real butter* or *product of Malaysia*—through large or stylized fonts, while secondary information is minimized in smaller, less conspicuous text. *Kraft Processed Cheddar Cheese* blends bold serif fonts for brand prominence with script-like styles enhanced by gold gradients, conveying artisanal quality and premium value, which may overshadow its highly processed nature. Similarly, *Whipy Whip Whipping Cream* utilizes playful fonts to suggest indulgence alongside professional sans-serif typography to communicate expertise and trust.

These stylistic choices serve to enhance readability and consumer confidence but may also contribute to greenwashing by visually reinforcing claims of naturalness, purity, or quality that are not always supported by clear, verifiable practices. As outlined in TMED, when font use elevates eco-imagery without corresponding evidence, it shifts from informative to potentially misleading—underscoring the subtle role of typography in constructing a greenwashed product identity.

4.2.5.2 Linguistic Analysis of Dairy Products

The linguistic features of the selected dairy products reveal the use of green words, metaphors, and idioms that aim to construct an image of naturalness, healthfulness, and sustainability. However, many of these textual strategies may contribute to greenwashing if not supported by verifiable evidence. However, many of these claims are not supported by verifiable evidence and may align with greenwashing practices.

Dairy Pure features terms like *low fat milk* and *proudly Pakistani*, promoting health-consciousness and national identity, while the word *pure* serves as a green word implying unprocessed, natural quality. *Nestlé Yogurt* highlights *made with natural milk* and *sweet n tasty*, where *natural* acts as a green word and *sweet n tasty* functions as a metaphor for indulgent flavor. *Adam's Yoghurt* includes *halal certified* as a marker of authenticity, while *natural* is again used as a green word to emphasize wholesomeness.

Nestlé Milk Pak Butter prominently displays *made from natural milk*, positioning *natural* as a green word, and the product label *salted dairy butter* evokes traditional and wholesome qualities. *Mumtaz Margarine* utilizes the playful idiom *mmm...* to enhance taste appeal and the phrase *spreadable margarine* to suggest user-friendliness. *Blue Band Margarine Spread* incorporates green words like *plant-based* and *omega 3 & 6*, along

with the metaphor *great start* to link the product to healthful beginnings and nutritional value.

Kraft Cheddar Cheese features *made from cow's milk* and *processed cheddar cheese*, with *cow's milk* functioning as a natural metaphor, though the emphasis on brand identity may overshadow the processed nature of the product. *Whipy Whip Whipping Cream* includes promotional phrases such as *money back guarantee* and *high heat-resistance*, with *contains no milk fat* presented as a green claim, while *extra over-run* serves as an idiomatic expression associated with product efficiency.

Polac Sweetened Condensed Filled Milk uses *product of Malaysia* to imply origin-based authenticity, while *sweetened condensed filled milk* is a factual descriptor that also subtly conveys richness. Lastly, *Young's Maska Breakfast Spread* uses the phrase *with real butter* as a green word and *great start* as a metaphor for nourishment and quality.

Overall, these linguistic choices effectively enhance product appeal but may mislead consumers when ecological or health-related benefits are implied without adequate substantiation, thus contributing to greenwashing tendencies.

4.2.6 Grains and Cereals

The grains and cereals category is a crucial part of the food and beverage industry, offering products that are often marketed as healthy, nutritious, and convenient. These products frequently use linguistic and semiotic strategies, such as claims of being natural or whole grain, paired with imagery of wholesome ingredients, to attract health-conscious consumers. However, such marketing may sometimes involve greenwashing, exaggerating health or sustainability claims. This analysis examines ten products—Nutrilov Crunchy Cereal Berry Blast, Fauji Wheat Flakes, Oat Som Instant Oatmeal Banana & Nuts, Nestle Cerelac, Milna Baby Rusk, Nestle Cerelac Nature's Selection Cereal, Kellogg's Granola Classic Oat Clusters, Searle Prep-Up Baby Cereal, Alpen Fruit & Nut Cereal Bars, and Fauji Choco Rings—to evaluate the authenticity of their marketing narratives. The upcoming figure demonstrate the front labels of ten grains and cereals:

Figure 4.10*Grains and Cereals*

Note. Grains and cereal-based food products analyzed for semiotic and linguistic strategies. The image includes ten products: a mix of adult breakfast cereals, baby foods, and snack bars. These products were selected based on availability in Pakistani retail markets and their varied use of natural, health-related, or eco-conscious packaging elements.

4.2.6.1 Semiotic Analysis of Grains and Cereals

The packaging of the ten analyzed grains and cereal products demonstrates deliberate use of semiotic strategies to evoke associations with health, nature, and child-friendliness—often aligning with greenwashing techniques. Applying the Tanz Model of Eco-Critical Discourse, this analysis focuses on signs, symbols, and visual cues that communicate environmental or health-related values, even when such claims lack verifiable support. For instance, *Nutrilov Crunchy Cereal Berry Blast* incorporates a green leaf emblem, wheat stalks, and berry illustrations to suggest nutritional value and natural sourcing, with visual markers such as *0 artificial preservatives* reinforcing the perception of purity. *Fauji Wheat Flakes* features halal certification and ISO 9001:2015

quality marks, along with wheat imagery, to signal tradition, credibility, and natural wholesomeness. *Oat Som Instant Oatmeal Banana & Nuts* employs icons of wheat, speech bubbles, and serving illustrations to blend nature with convenience. *Nestlé Cerelac* integrates fruit visuals, a teddy bear mascot, and symbolic references to brain and physical development to build trust and emotional appeal, especially for caregivers. *Milna Baby Rusk* uses playful symbols like blocks, fruit, and wheat to enhance its association with early nutrition and natural flavors. *Nestlé Cerelac Nature's Selection* highlights raw ingredients, a tag-like *Nature's Selection* graphic, and the recurring teddy bear motif to establish transparency and premium natural appeal. *Kellogg's Granola Classic Oat Clusters* features granola visuals and nutritional badges to suggest authenticity and wellness. *Searle Prep-Up Baby Cereal* incorporates fruit imagery, wheat stalks, and a blue bunny mascot to appeal to both nature-conscious and nurturing themes, while the Belgian flag implies international quality. *Alpen Fruit & Nut Cereal Bars* leverage mountain landscapes and earthy tones to create a narrative of purity and eco-friendliness. Finally, *Fauji Choco Rings* blends indulgence with trust by using a teddy bear mascot, pouring chocolate visuals, and a *Swiss technology* badge to signal quality and pleasure. While these signs effectively attract consumers, many lack substantiated ecological or nutritional backing, revealing potential greenwashing through symbolic exaggeration.

Beyond symbolic signs, the structural design and shapes of the ten grains and cereals products rely on semiotic tactics that reinforce perceived health and sustainability, often without verified ecological backing. Packaging elements—such as curves, round motifs, and traditional box shapes—are employed to subtly manipulate consumer perceptions toward naturalness, wellness, and environmental friendliness. For instance, *Nutrilov Crunchy Cereal Berry Blast* features a rectangular box with flowing ribbon elements, heart and leaf motifs, and organic curvature, projecting an aura of vitality and purity, despite offering no substantiation for such environmental claims. Similarly, *Fauji Wheat Flakes* incorporates circular icons, curved banners, and spoon imagery within a rectangular layout to evoke familiarity, stability, and home-prepared authenticity—yet no transparency is offered regarding sourcing or environmental impact.

Oat Som Instant Oatmeal Banana & Nuts employs a square package with rounded bowls and softly arched typography to suggest comfort and wholesomeness, while masking the lack of information on eco-certifications or ingredient sourcing. *Nestlé Cerelac* continues this approach, using child-centric imagery such as teddy bears, soft

edges, and circular bowls to evoke nurturing and natural nourishment—semiotically powerful but unsupported by verified green practices. *Milna Baby Rusk* mirrors this strategy through a rectangular box with rounded visual elements and friendly, curved banner designs to establish reliability and gentleness.

The use of circular and artisanal designs persists in *Nestlé Cerelac Nature's Selection*, which combines a rectangular box with circular serving visuals and tag-like branding to frame the product as a wholesome, premium offering—again, without providing evidence of sustainability or sourcing standards. *Kellogg's Granola Classic Oat Clusters* relies on contemporary pouch shapes, granola clusters in motion, and scientific-style hexagons to suggest health-consciousness and nutritional precision, yet its packaging reveals little about environmentally responsible manufacturing. Similarly, *Searle Prep-Up Baby Cereal* integrates round fruit visuals, soft packaging edges, and a blue bunny character to reinforce child-friendliness and vitality. *Alpen Fruit & Nut Cereal Bars* evoke natural purity through mountain peaks, rugged typography, and dispersed ingredient imagery, while *Fauji Choco Rings* uses playful ring-shaped cereal, round logos, and wave text to present an image of cheerful indulgence tied to trust and quality.

Collectively, these visual strategies—rooted in familiar and nature-linked shapes—play a significant role in constructing a green image that often lacks substantive environmental accountability. The Tanz Model reveals how these semiotic cues function not only as marketing aesthetics but as mechanisms of eco-imagery misdirection, contributing to consumer misinterpretation and advancing greenwashing narratives.

Consequently, the color palettes used across the ten cereal and grain-based products strategically incorporate nature-inspired tones that foster associations with health, purity, and environmental integrity. *Nutrilov Crunchy Cereal Berry Blast* employs soft pinks and greens, which semiotically evoke freshness, gentleness, and organic vitality—visual cues often interpreted as indicators of natural ingredients. In *Fauji Wheat Flakes* and *Fauji Choco Rings*, dominant red accents stimulate appetite and consumer attention, while also drawing implicit connections to the perceived richness of natural produce. Golden hues, prominently featured in *Fauji Wheat Flakes*, *Nestlé Cerelac*, and *Kellogg's Granola*, function as metaphors for grain-based wholesomeness and nutritional value, further reinforcing the image of traditional, farm-sourced ingredients.

Green elements—such as leaf motifs or halal logos—appear across products like *Nestlé Cerelac* and *Searle Prep-Up Baby Cereal*, aligning the visual language with

environmental friendliness, even when these suggestions lack substantiated ecological proof. Bright yellow tones in *Oat Som Instant Oatmeal* communicate vitality and energy, while earthy browns, as seen in *Alpen Fruit & Nut Cereal Bars* and *Searle Prep-Up*, reflect rustic simplicity and perceived authenticity. Clean whites and light blues, utilized in products such as *Milna Baby Rusk* and *Nestlé Cerelac Nature's Selection*, are semiotically linked with purity, hygiene, and parental trust.

These coordinated color schemes subtly construct a visual narrative that equates the products with natural origin, wholesome ingredients, and eco-conscious values. However, when evaluated through the Tanz Model lens, such strategies may qualify as semiotic greenwashing—leveraging environmental symbolism to cultivate a green brand image that is not necessarily supported by transparent sourcing or sustainable production practices.

Also, the packaging of these ten cereal products incorporates visual structures that balance functional clarity with appealing aesthetics, aiming to reinforce narratives of health, transparency, and natural origin. *Nutrilov Crunchy Cereal Berry Blast* and *Fauji Wheat Flakes* foreground packaging size and ingredient percentages in large, legible fonts, using this spatial prominence to suggest openness and nutritional value. Similarly, *Oat Som Instant Oatmeal Banana & Nuts* employs oversized imagery of key ingredients—such as bananas, nuts, and oat flakes—to semiotically emphasize freshness and dietary simplicity, reinforcing the impression of minimally processed food.

Nestlé Cerelac capitalizes on its established brand authority by placing nutritional icons (e.g., iron and vitamin A indicators) alongside child-friendly mascots and rounded bowls, combining science and emotion in a layout that appeals to health-conscious parents. *Milna Baby Rusk* and *Searle Prep-Up Baby Cereal* adopt packaging structures with actual-size product visuals and comprehensive nutritional panels on the reverse, a design choice that suggests transparency while visually reinforcing claims of natural benefit and developmental support.

Kellogg's Granola and *Alpen Fruit & Nut Cereal Bars* focus on clean, modern arrangements with scattered ingredient photography and white space to convey balance, authenticity, and artisanal quality. *Fauji Choco Rings*, targeting a younger demographic, combines playful character imagery and chocolate visuals with simplified, bold nutritional cues to project indulgence tempered by health consideration. Likewise, *Nestlé Cerelac Nature's Selection Cereal* integrates full-bowl depictions of dates, grains, and

bananas, along with a centered *Nature's Selection* badge, using strategic size variation and visual symmetry to reinforce its narrative of premium natural sourcing.

While these packaging layouts enhance usability and clarity, they also exemplify a semiotic greenwashing approach under the Tanz Model. By visually overemphasizing nutrition, nature, and balance—often without providing detailed evidence of sustainability—these designs construct a surface-level eco-conscious identity that appeals to ethical consumerism, despite lacking verified environmental accountability.

Therefore, the packaging of these ten cereal products demonstrates a strategic use of typographic design to support branding narratives associated with health, trust, and naturalness—key elements often associated with greenwashing. *Nutrilov Crunchy Cereal Berry Blast* employs a combination of lowercase friendly fonts and bold capital letters, merging approachability with authority, while sans-serif nutritional text is complemented by script fonts that evoke a hand-crafted, natural appeal. *Fauji Wheat Flakes* utilizes bold sans-serif fonts for product identification alongside subtle serif elements, merging modern clarity with traditional familiarity.

Oat Som Instant Oatmeal Banana & Nuts incorporates casual, playful typography with standard sans-serif fonts to balance emotional warmth and legibility. *Nestlé Cerelac* and *Nestlé Cerelac Nature's Selection* combine rounded, handwritten-style fonts with authoritative bold caps, targeting a dual audience of trust-seeking parents and health-conscious consumers. *Milna Baby Rusk* leverages large serif branding and soft, rounded fonts to appeal to both parental responsibility and child-friendly simplicity.

Kellogg's Granola Classic Oat Clusters juxtaposes bold caps and script fonts to promote a balance between indulgence and health-conscious messaging, while *Searle Prep-Up Baby Cereal* integrates bilingual typography, curved lettering, and functional sans-serif text to project inclusivity and nutritional reliability. *Alpen Fruit & Nut Cereal Bars* use clean, modern script and minimalist sans-serif fonts to signify premium, health-focused identity. Lastly, *Fauji Choco Rings* blends traditional fonts for brand familiarity with playful, child-targeted script and multilingual labels, reinforcing fun and accessibility.

These font choices are more than aesthetic—they semiotically reinforce product values linked to authenticity, simplicity, and health. When paired with visual and verbal cues lacking robust environmental or health certifications, they contribute to greenwashing by constructing a textual identity that implies eco-consciousness and nutritional integrity, without necessarily offering substantive evidence.

4.2.6.2 Linguistic Analysis of Grains and Cereals

Thus, the ten cereal products analyzed employ various linguistic devices—particularly green words and metaphors—to construct narratives around health, naturalness, and ethical consumption, aligning with the semiotic strategies previously discussed. In *Nutrilov Crunchy Cereal Berry Blast*, the phrase *made with whole grain* functions as a green word, implicitly promoting natural and unprocessed ingredients. *Fauji Wheat Flakes* includes *halal certified*, which, beyond its religious significance, acts as a green word by symbolizing ethical, clean production. *Oat Som Instant Oatmeal Banana & Nuts* employs *instant oatmeal* as a term connoting convenience without perceived compromise on health or nutritional value.

In *Nestlé Cerelac*, the phrase *fortified with iron* operates as a green word that emphasizes added nutritional value, while *Milna Baby Rusk* highlights *calcium, vitamin D, and iron*—all functioning as green words associated with health and child development. *Nestlé Cerelac Nature's Selection* incorporates *nature's selection* as a metaphor, implying purity, selectiveness, and closeness to nature, despite the lack of clear evidence about ingredient sourcing or sustainability practices.

Kellogg's Granola Classic Oat Clusters promotes itself as a *source of fiber*, another green word frequently used to signal dietary wholesomeness. *Searle Prep-Up Baby Cereal* features the phrase *easy to digest*, which functions as a green word aimed at appealing to concerns around infant health and digestion. Similarly, *Alpen Fruit & Nut Cereal Bars* employs *source of fiber* to suggest natural nutrition. Lastly, *Fauji Choco Rings* uses *halal certified* in a dual capacity—as both a regulatory assurance and a green word indicating cleanliness, purity, and ethical standards.

While these terms are often accurate from a marketing or regulatory standpoint, their uncritical repetition across packaging may mislead consumers by exaggerating the environmental or health benefits of the products—thus contributing to greenwashing if such claims are not substantiated through transparent certifications or sourcing disclosures.

4.2.7 Herbal Tea

The herbal teas category has gained significant popularity within the food and beverage industry due to its association with health, wellness, and natural living. Often marketed with claims of being organic, detoxifying, or slimming, these teas employ linguistic and semiotic strategies to appeal to consumers seeking healthier lifestyles.

However, such marketing can sometimes involve greenwashing, where eco-friendliness or health benefits are overstated. This analysis explores ten herbal tea products—Vital Tea Lemon Green Tea, Tapal Green Tea Lemon Grass, Tapal Green Tea Jasmine, Vital Pink Kashmiri Tea, Lipton Green Tea Luscious Mixed Berries, Vital Enveloped Chamomile Tea, Earth Bar Organic Lemon Grass Tea, Slim Fast Pure Organic Sliming Herb Tea, Masood Moringa Organic Tea, and Slimax Sliming Herb Tea Bags—to evaluate the validity of their health and eco-friendly claims.

Figure 4.11

Herbal Tea



Note. This figure displays a selection of herbal tea products used in the analysis. The packaging showcases visual and textual strategies such as nature-inspired imagery, health-related claims, and color schemes intended to promote perceptions of purity, wellness, and sustainability. These elements are examined in detail through semiotic and linguistic lenses in the following sections.

4.2.7.1 Semiotic Analysis of Herbal Teas

Applying the Tanz Model of Eco-Critical Discourse (TMED), particularly its semiotic component, the packaging of ten herbal tea products demonstrates how visual signs and symbols are employed to construct an image of environmental consciousness and healthfulness—though in ways that may sometimes overstate or embellish the product’s ecological or nutritional value. Natural imagery such as lemon slices (*Vital Lemon Green Tea*), jasmine flowers (*Tapal Jasmine Green Tea*), lemongrass (*Tapal Lemongrass Green Tea*), tea leaves (*Vital Pink Kashmiri Tea*), and chamomile flowers (*Vital Chamomile Tea*) are prominently featured, creating associations with purity, calm, and organic origins. However, many of these visual cues are not supported by certified eco-labels or verifiable sourcing information. For example, while *Earth Bar Organic Lemon Grass Tea* and *Masood Moringa Organic Tea* use words like *organic*, the absence of credible certification may create a misleading perception of authenticity. Similarly, products like *Slimax Sliming Herb Tea* and *Lipton Green Tea with Luscious Mixed Berries* use symbols such as medical crosses, calorie icons, or slimming figures to subtly suggest health benefits, though scientific substantiation is often lacking. Under TMED, such semiotic strategies may reflect a selective presentation of information that contributes to an idealized product image, aligning with soft forms of greenwashing through symbolic enhancement rather than factual transparency.

Therefore, from the perspective of the Tanz Model of Eco-Critical Discourse (TMED), the shape and layout of the ten herbal tea packages reflect carefully curated design choices that aim to project authenticity, naturalness, and consumer trust. Circular jars used by products such as *Vital Tea Lemon Green Tea*, *Tapal Green Tea Lemon Grass*, *Tapal Green Tea Jasmine*, and *Vital Pink Kashmiri Tea* connote harmony and completeness, while curved labels and fluid visual elements evoke a connection to nature and wellness. However, these symbolic cues can create a contrast between perceived sustainability and actual material usage, particularly when plastic packaging is involved. Similarly, rectangular box formats found in *Lipton Green Tea – Luscious Mixed Berries*, *Vital Enveloped Chamomile Tea*, *Slim Fast Pure Organic Sliming Herb Tea*, *Masood Moringa Organic Tea*, and *Slimax Sliming Herb Tea Bags* communicate practicality and stability. When paired with curved emblems, flowing typography, or circular motifs, these shapes foster an image of certified quality or health-conscious value. Transparent windows in *Earth Bar Organic Lemon Grass Tea* and ornate icons further accentuate an

impression of natural authenticity. Under the TMED semiotic lens, these design techniques may function as aesthetic amplifiers—enhancing the perceived ecological and health-related credibility of the product, despite limited verifiable evidence. As such, while these visual strategies are effective in attracting eco-conscious consumers, they may unintentionally contribute to visual overstatement, a softer form of greenwashing.

Moreover, from the semiotic lens of the Tanz Model of Eco-Critical Discourse (TMED), the color schemes across the ten herbal tea products are strategically crafted to stimulate specific emotions and reinforce associations with health, purity, and environmental consciousness. For instance, *Vital Tea Lemon Green Tea* incorporates dominant yellow tones to signify citrus freshness, vitality, and optimism, complemented by green for natural health cues and white for cleanliness and purity. *Tapal Green Tea Lemon Grass* uses golden hues to communicate warmth and premium quality, while green typography enhances its connection to wellness and nature. The inclusion of brown tea visuals and white steam further reinforces freshness and authenticity.

Similarly, *Tapal Green Tea Jasmine* features lime green for vibrancy and health, while its beige background adds sophistication. White jasmine flowers symbolize purity, creating a calming aesthetic. *Vital Pink Kashmiri Tea* combines pink tones for feminine appeal, green for natural identity, and red for warmth and richness. The transparent jar reinforces product visibility and perceived genuineness.

In *Lipton Green Tea Luscious Mixed Berries*, bright green signals freshness, while deep magenta and berry visuals suggest fruity variety and indulgence. A yellow logo accentuates positivity and consumer engagement. *Vital Enveloped Chamomile Tea* utilizes purple to evoke relaxation and subtle luxury, orange accents for energy, and white chamomile flowers for purity, with a golden banner signifying exclusivity.

Earth Bar Organic Lemon Grass Tea adopts kraft brown backgrounds to imply eco-consciousness, green illustrations to suggest organic origins, and orange tones to add warmth. *Slim Fast Pure Organic Sliming Herb Tea* integrates lime green to reinforce health, with yellow and white details promoting brightness and clarity. Orange tea illustrations subtly authenticate its herbal identity. *Masood Moringa Organic Tea* features a clean white base for purity, green borders for natural links, red for energy, and yellow tones in the tea liquid to emphasize richness.

Lastly, *Slimax Sliming Herb Tea Bags* utilize a green header and leaf imagery to underscore nature, while golden tea visuals suggest premium quality, and white space

contributes to a clean, clinical look. Under TMED, such color selections function as semiotic reinforcements—intended to communicate eco-friendliness and wellness. However, in the absence of substantiated environmental or health credentials, these visual elements risk projecting an overstated ecological or nutritional image, reflecting the subtleties of greenwashing discourse.

Plus, the size and placement of design elements across the ten herbal tea products reveal carefully orchestrated visual hierarchies that shape consumer perception and subtly align with green-themed marketing narratives. Under the semiotic lens of the Tanz Model of Eco-Critical Discourse (TMED), these visual strategies function as persuasive tools that foreground health, trust, and nature-inspired qualities—sometimes without sufficient verification.

For instance, *Vital Tea Lemon Green Tea* features a prominently placed brand logo, accompanied by medium-sized lemon imagery and product transparency that signals authenticity. *Tapal Green Tea Lemon Grass* and *Tapal Green Tea Jasmine* also emphasize product visibility through clear jars, using bold green tea text as the focal point, while lemongrass and jasmine details appear in supportive, smaller fonts. This deliberate visual hierarchy promotes both brand identity and flavor specificity in a cohesive, trust-invoking manner.

Vital Pink Kashmiri Tea adopts a similar approach, combining a bold product title with transparent sections and a centered tea bowl image, supported by decorative leaves to reinforce a natural and wholesome narrative. *Lipton Green Tea Luscious Mixed Berries* showcases green tea in large text, carefully arranged berry visuals, and strategically placed health icons, contributing to a clean and health-centric design structure.

In *Vital Enveloped Chamomile Tea*, large floral imagery and oversized product naming emphasize calming effects, while clear tea bag counts enhance transparency. *Earth Bar Organic Lemon Grass Tea* leverages a generous viewing window and harmonized label composition to signal eco-conscious transparency. *Slim Fast Pure Organic Sliming Herb Tea* places health-related text—particularly weight-loss benefits—at the visual forefront, paired with inviting tea imagery and quality seals that reinforce perceived credibility.

Masood Moringa Organic Tea highlights its product features with a well-balanced mix of brand prominence, nutritional cues, and bilingual text to appeal to culturally diverse, health-aware audiences. *Slimax Sliming Herb Tea Bags* similarly utilizes large

fonts, centered tea visuals, and icons like certification stamps to project reliability and natural alignment.

Collectively, these layout and spatial strategies contribute to the aesthetic framing of trustworthiness, wellness, and environmental alignment. Within the TMED framework, such visual designs may risk over-representing the eco-ethical value of products, potentially leading to mild forms of greenwashing if these associations are not substantiated by verifiable practices or third-party endorsements.

Similarly, the font types and sizes used across the ten herbal tea products are thoughtfully selected to create visual hierarchies that convey trust, health, and natural authenticity—strategies that align with subtle forms of green marketing. When viewed through the semiotic lens of the Tanz Model of Eco-Critical Discourse (TMED), these typographic choices act as signs that reinforce brand values while potentially shaping consumer perceptions toward eco-friendliness and well-being.

Vital Tea Lemon Green Tea utilizes the word *Vital* in bold capital letters to project strength and significance, paired with clean, modern fonts that suggest freshness and sophistication. *Tapal Green Tea Lemon Grass* and *Tapal Green Tea Jasmine* employ similar branding strategies, using *Tapal* in bold capitals to assert brand authority, while the terms *green tea* and respective flavors appear in decorative or serif fonts, balancing prominence with elegance.

Vital Pink Kashmiri Tea integrates bold fonts for *Vital* with script-style text for *pink tea*, evoking refinement and tradition. The term *Kashmiri tea* is rendered in smaller fonts, offering cultural specificity while maintaining visual harmony. *Lipton Green Tea Luscious Mixed Berries* features bold modern typography for *green tea*, with *luscious mixed berries* in capital letters to highlight flavor and indulgence, complemented by minimalist fonts used in claims such as *staying in shape*.

Vital Enveloped Chamomile Tea presents the product name in structured bold fonts to convey reliability, accompanied by delicate script fonts for *chamomile* to highlight naturalness and calm. Supporting information is written in small, professional typefaces to underscore product expertise. *Earth Bar Organic Lemon Grass Tea* uses modern sans-serif fonts for readability, incorporating Arabic script to expand inclusivity and cultural resonance.

Slim Fast Pure Organic Sliming Herb Tea integrates dynamic font variations, with *Slim Fast* in italicized bold letters suggesting activity, while *pure organic tea* appears in strong capital fonts that denote authority. Playful script is also employed to humanize the

appeal. *Masood Moringa Organic Tea* emphasizes *energizer boost* in bold fonts to evoke vitality, with *Moringa* and *organic tea* in contemporary, approachable fonts supported by natural imagery.

Finally, *Slimax Sliming Herb Tea Bags* combines sleek branding with stylized modern fonts for *Slimax*, while *sliming herb* and *lose weight* are featured in assertive capital letters, suggesting authority and functional benefit. Smaller text segments contain dosage or health tips in compact, easily legible fonts.

Collectively, these typographic choices enhance the perceived legitimacy of health, purity, and environmental alignment. However, without clear third-party verification or regulatory backing, such visual cues may contribute to *constructive green narratives*—a form of semiotic greenwashing that prioritizes eco-friendly impressions over transparent sustainability.

4.2.7.2 Linguistic Analysis of Herbal Teas

The linguistic features across the analyzed herbal tea products reveal deliberate uses of green words, metaphors, and idioms to convey perceptions of health, eco-friendliness, and naturalness. From the perspective of the Tanz Model of Eco-Critical Discourse (TMED), these lexical strategies represent a key mechanism through which product language constructs an environmentally aligned identity—one that may not always be accompanied by verifiable practices.

For example, the phrase *green tea* in *Vital Tea Lemon Green Tea* functions as a green word, subtly invoking wellness, lightness, and environmental responsibility, while *blend specialist* operates as a metaphor for craftsmanship and quality. *Tapal Green Tea Lemongrass* and *Tapal Green Tea Jasmine* each rely on ingredient-based metaphors—*lemongrass* for freshness and *jasmine* for purity and calmness—enhancing natural connotations.

In *Lipton Green Tea Luscious Mixed Berries*, the term *mixed berries* metaphorically suggests the health benefits of nature's bounty, while the idiomatic phrase *staying in shape made delicious* positions the product as a guilt-free indulgence. Similarly, terms like *natural product* on *Vital Enveloped Chamomile Tea* and *100% Natural* on *Earth Bar Organic Lemon Grass Tea* reinforce a sense of organic origin and environmental harmony, although such claims often lack clear verification.

Further, phrases such as *pure organic* in *Slim Fast Pure Organic Slimming Herb Tea* and *herbal* in *Slimax Slimming Herb Tea Bags* blend health-oriented metaphors with

green words, forming a compelling narrative of unprocessed, wholesome wellness. These strategies are effective in shaping consumer perceptions and creating brand affinity. However, in the absence of supporting regulatory or scientific evidence, these discursive choices may contribute to greenwashing by overstating environmental responsibility or natural composition.

CHAPTER 5

DISCUSSION

This chapter addresses the second research question, which investigates the credibility of green claims made in eco-advertisements by comparing them with the actual composition of the advertised products. The analysis critically explores the degree of alignment between promotional language and product formulations, highlighting where claims may be substantiated, exaggerated, or potentially misleading. Drawing on the Tanz Model of Eco-Critical Discourse (TMED), the discussion incorporates semiotic, linguistic, and compositional analyses to provide a multidimensional understanding of greenwashing strategies. A small-scale corpus, developed from 110 product labels and analyzed using AntConc software, further supports the investigation by identifying the frequency and patterns of key green terms. Ultimately, this chapter sheds light on the ethical dimensions of eco-marketing and contributes to the broader discourse on advertising transparency and consumer awareness.

5.1 Health Care

This section investigates the credibility of green claims in healthcare products by focusing on four subcategories: health supplements, skincare, hair care, and massage oils. Through an analysis of their claims and actual ingredient compositions, the study evaluates whether these products genuinely uphold the eco-friendly and health-focused promises they advertise. The research critically examines the alignment between the marketed green language, visuals, and symbols and the reality of their formulations, shedding light on the authenticity of these claims.

5.1.1 Health Supplements

The study evaluates the claims and compositions of ten health supplements—Bourn Vita, Complian, Ensure, Horlicks, Pediasure, Moringa BFgrow3, Boost, Ovaltine, Sustagen, and Serious Mass—to assess their credibility regarding health and eco-friendliness. By analyzing their ingredients and advertised promises, the research highlights significant gaps between claims and actual formulations. Two major ingredients, present in alarming quantities, were identified as contradictory to the advertised health benefits, exposing greenwashing practices. The findings emphasize the need for transparency and authoritarian regulation to ensure that health supplements

genuinely align with their eco-friendly and health-oriented claims. The following table shows the quantity of these alarming ingredients:

Table 5.1

Carbohydrate and Sugar in Health Supplements

Product	Carbohydrate per 100g (g)	Sugar per 100g (g)
Bourn Vita	85.4	71.1
Complan	79.5	25.0
Ensure	57.4	16.0
Horlicks	79.0	14.0
Pediasure	59.18	24.49
Moringa BFgrow	54.1	2.0
Boost	13.08	8.44
Ovaltine	75.0	51.0
Sustagen	65.0	45.0
Serious Mass	73.53	11.18

Note. The high level of sugar found in these health supplements.

The analysis of the ten selected health supplements reveals noteworthy inconsistencies between their marketed health claims and their actual nutritional compositions, highlighting areas that warrant closer scrutiny. This study adds to the existing body of research by offering a uniquely corpus-supported and ingredient-based evaluation of these products within a Pakistani context—an angle less emphasized in prior investigations. Products such as *Bourn Vita* and *Ovaltine*, which are often associated with vitality and wellness, contain comparatively high levels of sugar (51–71g per 100g), a figure that may appear inconsistent with their health-oriented positioning. Similarly, supplements like *Pediasure* and *Horlicks*, promoted for children's growth and immunity, display sugar levels ranging from 24g to 51g per 100g—amounts that could contribute to elevated sugar intake if consumed frequently.

In contrast, products such as *Boost*, *Complan*, and *Moringa BFgrow* exhibit relatively lower sugar levels, yet the absence of clear differentiation between naturally occurring carbohydrates and added processed sugars presents a lack of nutritional transparency that could impact consumer perceptions. Likewise, *Ensure* and *Sustagen*, positioned as nutritionally balanced supplements, display moderately high sugar content, which may lead to an overestimation of their health benefits among certain consumer segments. Notably, *Serious Mass*, a performance-oriented product for athletes, contains a particularly high carbohydrate load (250g per serving with 38g sugar), making it less suitable for routine consumption by the general population, despite its targeted formulation.

Further supported by the study of Garg et al. (2017), which assessed physiological effects such as plaque pH variation, these findings suggest that product narratives may selectively highlight favorable attributes while downplaying less advantageous aspects. This nuanced understanding contributes to the discourse on green marketing by underscoring the importance of transparent labeling and informed consumer choice. The current study, by triangulating compositional data with advertised claims, introduces a new analytical lens for evaluating eco-health narratives in product promotion, offering a significant step forward in the examination of greenwashing practices through a localized, empirical framework.

5.1.2 Skin Care

This section evaluates the green claims and actual formulations of ten skincare products: Himalaya Purifying Neem Face Wash, Derma Shine Tea Tree Acne Face Wash, Vibrant Beauty Lemon Purifying Face Wash, Eveline Face Wash, CoNatural Hydrating Aloe Vera Face Wash, Seven Herbal Beauty Cream, Soft Touch Massage Cream Herbal, Fair & Lovely Herbal Care Glowing Fairness Cream, Esfolio Green Herb Sun Cream, and Hollywood Style Whitening Massage Cream. By critically analyzing the alignment between their eco-friendly and health-focused claims and their ingredient compositions, the study identifies key discrepancies that raise concerns about greenwashing practices. The findings highlight how linguistic and visual strategies are used to promote these products as natural or herbal, despite the presence of synthetic additives or potentially not eco-friendly components, underscoring the need for transparent labeling and ethical marketing. The following table presents the chemical ingredients found in these skin care products which claims themselves natural:

Table 5.2*Chemical Ingredients in Skin Care*

Product	Chemical Ingredients
Himalaya Purifying Neem Face Wash	Ammonium Lauryl Sulfate, Cocamidopropyl Betaine, Sodium Cocoyl Glutamate, Disodium Cocoyl Glutamate, Acrylates/C10-30 Alkyl Acrylate Crosspolymer, Sodium Hydroxide, Phenoxyethanol, Methylchloroisothiazolinone, Methylisothiazolinone, Sodium Metabisulfite, Citric Acid, Disodium EDTA, CI 19140, CI 42090.
Derma Shine Tea Tree Acne Face Wash	Sodium Lauryl Ether Sulphate, Cocamidopropyl Betaine, Sodium Chloride, Salicylic Acid, Citric Acid.
Vibrant Beauty Lemon Purifying Face Wash	Ammonium Lauryl Ether Sulphate, Cocamidopropyl Betaine, Hydroxypropyl Methylcellulose, Carbomer, D-Panthenol, Tocopheryl Acetate, C10-30 Alkyl Acrylate Crosspolymer, Sodium Hydroxide, Phenoxyethanol, Benzyl Alcohol, DMDM Hydantoin, Colouring Agents.
Eveline Face Wash	Sodium Laureth Sulfate, Cocamide DEA, Cocamidopropyl Betaine, Lauroyl/Myristoyl Methyl Glucamide, PEG-7 Glyceryl Cocoate, PEG-50 Shea Butter, Citric Acid, Sodium Benzoate, Potassium Sorbate, Allantoin, Disodium EDTA, Pentylene Glycol, Fructose, Urea,

	Sodium PCA, Sodium Lactate, Trehalose, Sodium Hyaluronate, CI 19140, CI 42090, Benzyl Salicylate, Limonene, Linalool, Butylphenyl Methylpropional, Hexyl Cinnamal.
CoNatural Hydrating Aloe Vera Face Wash	Cocamidopropyl Betaine, Sodium Cocoyl Isethionate, Decyl Glucoside, Polysorbate 80, Sodium Lauryl Sarcosinate, Phenoxyethanol, Ethylhexylglycerin, PEG-150 Pentaerythrityl Tetrastearate, Tetrasodium EDTA.
Seven Herbal Beauty Cream	Pola Wax, Ozokerite Wax, Cetostearyl Alcohol, Retinyl Palmitate, Methylparaben, Propylparaben, Arbutin, Bismuth Subnitrate, EDTA, TEA, Nicotinamide.
Soft Touch Massage Cream Herbal	Glyceryl Stearate, Cetyl Alcohol, Stearic Acid, Chlorhexidine Gluconate, Tetrahexyldecyl Ascorbate, Polysorbate 60, Glycolic Acid, Carbomer, Sodium Acrylate, Triethanolamine, Isohexadecane, Polysorbate 80, DMDM Hydantoin, Cosmetic Color Green.
Fair & Lovely Herbal Care Cream	Palmitic Acid, Stearic Acid, Ethylhexyl Methoxycinnamate, Dimethicone, Phenoxyethanol, Methylparaben, Propylparaben, Titanium Dioxide, Zinc Oxide, CI17200, Amyl Cinnamal, Benzyl Benzoate, Benzyl Salicylate, Citronellol, Geraniol, Limonene, Linalool.
Esfolio Green Herb Sun Cream	Ethylhexyl Methoxycinnamate,

	Ethylhexyl Salicylate, Octocrylene, Niacinamide, Sodium Benzoate, Sorbitan Stearate, Glyceryl Stearate, PEG-100 Stearate, Polysorbate 60, Aluminum Starch Octenylsuccinate, Acrylates/C10- 30 Alkyl Acrylate Crosspolymer, Arginine, Aluminum Hydroxide, Chlorphenesin.
Hollywood Style Whitening Massage Cream	Mineral Oil, Cetyl Alcohol, Glyceryl Stearate, Polysorbate-60, Stearic Acid, Kojic Dipalmitate, Hydrolyzed Elastin, Soluble Collagen, Sodium Acrylate, Isohexadecane, Carbomer, Methylchloroisothiazolinone, Methylisothiazolinone, Propylparaben.

Note. Chemical ingredients were extracted from the product labels.

The ingredient analysis of the selected skincare products indicates notable discrepancies between their marketed natural claims and actual formulations, suggesting the potential presence of greenwashing techniques. This research contributes a nuanced, composition-based evaluation to the discourse on green marketing by critically examining how claims of naturalness may coexist with the inclusion of synthetic substances. While many products prominently highlight herbal or botanical ingredients on their packaging, their formulations often reveal a reliance on chemical additives for cleansing, preservation, or sensory enhancement.

For instance, *Himalaya Purifying Neem Face Wash*, which promotes itself as a neem-based natural product, includes synthetic ingredients such as Ammonium Lauryl Sulfate and Methylisothiazolinone—commonly used for foaming and preservation. Likewise, *Derma Shine Tea Tree Acne Face Wash* emphasizes natural agents like tea tree oil and turmeric extract but also contains Sodium Lauryl Ether Sulfate and Salicylic Acid, pointing to a hybrid formulation that blends natural and synthetic elements.

Vibrant Beauty Lemon Purifying Face Wash features lemon seed extract as a key natural component yet includes DMDM Hydantoin and Phenoxyethanol—preservatives

that have raised concerns among consumers advocating for green cosmetics. Similarly, *Eveline Face Wash* incorporates aloe vera leaf juice but depends heavily on Sodium Laureth Sulfate and synthetic stabilizers, reflecting a formulation strategy not uncommon in mainstream skincare products. *CoNatural Hydrating Aloe Vera Face Wash*, though positioned as a botanical product with ingredients such as aloe vera and apple fruit extract, contains Cocamidopropyl Betaine and Phenoxyethanol, signaling a formulation that may not fully align with expectations of natural purity.

In the case of creams, *Seven Herbal Beauty Cream* and *Soft Touch Massage Cream Herbal* include nourishing plant-based oils such as jojoba and sunflower seed oil. However, these are accompanied by ingredients like Retinyl Palmitate and Polysorbates, which may be less consistent with the “herbal” branding. *Fair & Lovely Herbal Care Cream* lists extracts such as saffron and sandalwood, yet the presence of Dimethicone and Methylparaben reflects the functional role of synthetics in texture and preservation, potentially diluting its green claims.

Likewise, *Esfolio Green Herb Sun Cream*, advertised as green and herbal, blends lavender and peppermint extracts with UV filters like Octocrylene and Ethylhexyl Salicylate—ingredients commonly used in sunscreens but associated with environmental concerns. Finally, *Hollywood Style Whitening Massage Cream* markets natural extracts like cucumber and lavender, while including synthetic agents such as Mineral Oil and Kojic Dipalmitate, illustrating a strategic duality in formulation.

This study, through empirical compositional verification, reveals that while natural elements are present, their prominence in marketing may exceed their quantitative or functional significance within the product. As Gupta (2015) notes, herbal products are defined by the use of plant-based extracts for personal or health-related applications. Similarly, O’Hagan (2020) defines “pure” products as those free from harmful additives or contamination. In this context, clearer standards and transparent labeling practices are necessary to safeguard consumer trust and to avoid ambiguity in terms like “natural” or “herbal.” The current findings highlight the importance of regulatory clarity and product integrity within green marketing, offering new insights into the semiotic and compositional dimensions of skincare advertising. Previous toxicological and dermatological studies have shown that certain synthetic surfactants and preservatives—such as sodium lauryl sulfate (SLS) and methylisothiazolinone (MI)—can, under specific conditions, compromise the skin barrier or trigger allergic reactions. For instance, De Jongh et al. (2006) demonstrated that the penetration rate of SLS into the human stratum

corneum correlates with skin barrier impairment and inflammation. Similarly, Törmä et al. (2008) found that SLS exposure disrupts epidermal structure by altering key protein expressions such as involucrin and profilaggrin during the repair process. In the case of preservatives, Castanedo-Tardana and Zug (2013) reported that MI was identified as a leading contact allergen based on patch-testing data from dermatitis patients, with reactions in up to 10.9% of tested individuals. These findings emphasize the importance of cautious formulation and transparent labeling in products marketed as “natural,” particularly since such ingredients may still pose dermatological risks for sensitive individuals.

5.1.3 Hair Care

The analysis of hair care products focused on ten widely available shampoos, including Lifebuoy Herbal Shampoo, Herbal Essences Dazzling Shine Lime Essences Shampoo, Head & Shoulders Neem Anti-dandruff Shampoo, Palmolive Naturals Healthy & Smooth Shampoo (Aloe Vera & Fruit Vitamins), and L'Oréal Paris Botanicals Fresh Care Ginger & Coriander Strengthening Shampoo. These products claim to provide herbal and natural solutions, emphasizing ingredients such as neem, aloe vera, ginger, coriander, and fruit vitamins. Similarly, Sunsilk Natural Recharge Fig & Mint Refresh Shampoo, Mama Organic Onion Shampoo, Golden Pearl Hello Hair Herbal Shampoo + Conditioner, Dabur Amla Reetha & Shikakai Shampoo, and Garnier Fructis Pure Clean Purifying Shampoo (Silicone-Free) highlight their organic, herbal, or eco-friendly attributes. This section examines the credibility of these claims by comparing the advertised benefits with the actual ingredients, shedding light on the extent to which these products align with their marketed *natural* and *herbal* identities. The following tables shows the chemicals list found in these hair care products:

Table 5.3*Chemical Ingredients in Hair Care Products*

Hair Care	Chemical Ingredients
Lifebouy Herbal Shampoo	Water, Sodium Laureth Sulfate, Dimethiconol, Sodium Chloride, PEG-45M
Herbal Essences Dazzling Shine Lime Essences	Aqua, Sodium Laureth Sulfate, Sodium Chloride, Sodium Xylenesulfonate
Head & Shoulders Neem Anti-dandruff Shampoo	Water, Sodium Laureth Sulfate, Sodium Lauryl Sulfate, Sodium Xylenesulfonate
Palmolive Naturals Healthy & Smooth	Ammonium Lauryl Sulfate, Ammonium Laureth Sulfate, Sodium Chloride
L'Oreal Paris Botanicals Fresh Care	Water, Sodium C14-16 Olefin Sulfonate, Sodium Benzoate, Sodium Hydroxide
Sunsilk Natural Recharge	Water, Sodium Laureth Sulfate, Dimethiconol, Sodium Hydroxide
Mama Organic Onion Shampoo	Water, Sodium Olefin Sulfonate, Carbopol 940
Golden Pearl Hello Hair Herbal	Water, Sodium Laureth Sulfate, Dimethicone, Sodium Chloride
Dabur Amla Reetha & Shikakai Shampoo	Water, Sodium Laureth Sulfate, Cocamide MEA, Sodium Chloride
Garnier Fructis Pure Clean	Aqua, Sodium Laureth Sulfate, Sodium Chloride, Sodium Benzoate

Note. The chemical ingredients were obtained from the hair care product labels.

The compositional analysis of selected hair care products highlights inconsistencies between the claims of natural, herbal, or pure ingredients and the actual formulations, contributing to a broader understanding of greenwashing in cosmetic labeling. This study adds a novel perspective to existing literature by empirically

verifying product claims through ingredient examination, a practice less frequently undertaken in discourse-based green marketing research.

Many shampoos within the dataset present themselves as herbal or plant-based; however, they contain a combination of natural extracts and conventional synthetic chemicals that may not align with consumer expectations of purity. For example, *Lifebuoy Herbal Shampoo* emphasizes neem tree extract and milk protein but includes ingredients like Sodium Laureth Sulfate and Dimethiconol, commonly used surfactants and conditioning agents in conventional shampoos. Similarly, *Herbal Essences Dazzling Shine Lime Essences* highlights botanical essences but incorporates synthetic agents such as Sodium Laureth Sulfate and Sodium Chloride, which are standard cleansing components in mainstream hair care formulations.

Head & Shoulders Neem Anti-dandruff Shampoo also features neem extract prominently, yet the presence of Sodium Laureth Sulfate and Sodium Xylenesulfonate indicates a hybrid composition. *Palmolive Naturals Healthy & Smooth Shampoo* promotes aloe vera and citrus fruit extracts but is formulated with Ammonium Lauryl Sulfate and Ammonium Laureth Sulfate—surfactants widely recognized for their foaming properties. While effective in cleansing, these ingredients may dilute the perception of a wholly natural product.

L'Oréal Paris Botanicals Fresh Care references natural elements like ginger root and coriander seed oil but includes compounds such as Sodium C14-16 Olefin Sulfonate and Sodium Benzoate. Likewise, *Sunsilk Natural Recharge* highlights fig and peppermint extracts, yet it relies on Dimethiconol and Sodium Laureth Sulfate—chemical agents typically added for smoothing and foaming.

Mama Organic Onion Shampoo emphasizes plant-based and organic ingredients; however, its composition includes Sodium Olefin Sulfonate and Carbopol 940. While not harmful, such ingredients shift the formulation away from a fully organic profile. *Golden Pearl Hello Hair Herbal Shampoo* promotes traditional herbal extracts like amla, shikakai, and reetha, but contains Dimethicone and Sodium Laureth Sulfate. These additions may be necessary for texture and usability, yet they complicate the product's "herbal" identity.

Similarly, *Dabur Amla Reetha & Shikakai Shampoo* advertises fruit extracts yet includes Cocamide MEA and Sodium Laureth Sulfate. *Garnier Fructis Pure Clean*, which markets itself as silicone-free and purifying, still utilizes synthetic compounds such

as Sodium Laureth Sulfate and Sodium Benzoate to maintain product stability and cleansing efficiency.

These findings illustrate a marketing tendency to highlight select natural components while under-communicating the presence of functional synthetics. This strategy aligns with broader trends in green marketing, where the inclusion of natural elements may symbolically reinforce brand credibility, even when the core formulation remains synthetic. As *Bhatia and Chugh (2021)* note, the ambiguity surrounding terms like "natural" and "herbal" in product marketing often leads to the exploitation of consumer trust, especially when regulatory definitions are vague or inconsistently applied.

In conclusion, while the presence of natural ingredients is evident across these products, the concurrent reliance on synthetic agents for performance, preservation, and texture reflects a nuanced form of green marketing that may contribute to consumer misconceptions. This study's unique contribution lies in uncovering how textual and compositional elements work in tandem to shape consumer perceptions of naturalness in hair care, further reinforcing the need for clearer regulatory frameworks and standardized labeling criteria within the personal care industry. Previous dermatological and toxicological research indicates that some commonly used hair care ingredients—such as Sodium Laureth Sulfate and Ammonium Lauryl Sulfate—may, in certain concentrations or in sensitive individuals, contribute to scalp irritation, barrier disruption, or dryness, underscoring the importance of balanced formulation and transparent communication in products marketed as “natural” (Ananthapadmanabhan et al., 2013; Effendy & Maibach, 2006).

5.1.4 Massage Oils

The analysis of massage oils focuses on ten products, each claiming unique benefits and formulations, including natural and herbal components. These products include Pigeon Natural Botanical Olive Oil, Argan Oil & Chamomile Baby Water Gel; Palmer's Moisturizing Body Oil; CoNatural Organic Coconut Oil; and The Body Shop Oils of Life Intensely Revitalizing Facial Oil, which emphasize nourishing and revitalizing properties. Similarly, Emami 7 Oils in One Non-Sticky Hair Oil, Nisa Hair Oil, Dabur Vatika Naturals Shikakai Soft & Silky Enriched Hair Oil, and Wellace Amla Deep Repair Hair Oil highlight their suitability for hair care with promises of strengthening and repair. Additionally, Palmer's Hair & Scalp Oil with Coconut Oil and

Vitamin E, and Johnson's Baby Creamy Oil with Aloe & Vitamin E claim to provide hydration and gentleness, particularly for sensitive skin and scalp. This segment examines the validity of these claims through a detailed assessment of their ingredient compositions, evaluating their alignment with marketed benefits and natural or herbal identities. The list of chemicals in these massage oils presented in the following table:

Table 5.4

Chemicals in Massage Oil

Oil Name	Chemical Ingredients
Pigeon Natural Botanical Olive Oil & Argan Oil & Chamomile Baby Water Gel	Dipropylene Glycol, Dimethicone, Phenoxyethanol, Parfum
Palmer's Moisturizing Body Oil	Isopropyl Myristate, Parfum, BHT, Zea Mays (Corn) Oil
CoNatural Organic Coconut Oil	-
The Body Shop Oils Of Life	Caprylic/Capric Triglyceride, Parfum, Pentaerythrityl Tetra-Di-t-Butyl Hydroxyhydrocinnamate
Emami 7 Oils in One Non-Sticky Hair Oil	Paraffinum Liquidum, BHT, CI 47000
Nisa Hair Oil	Vitamin E (Tocopheryl Acetate), Parfum
Dabur Vatika Naturals Shikakai Soft & Silky Enriched Hair Oil	Parfum, BHT, CI 26100, CI 47000
Wellace Amla Deep	Limonene, Linalool, Parfum

Repair Hair Oil

Palmer's Hair & Scalp
Oil With Coconut Oil
and Vitamin E

Fragrance (Parfum)

Johnson's Baby
Creamy Oil with Aloe
& Vitamin E

Parfum, Coumarin, Limonene

Note. Chemicals found in the composition of massage oils.

The comparison of the ingredients and claims in the selected oil-based products reveals a complex interplay between branding strategies and actual product composition, where green and natural claims are frequently emphasized. While these products prominently feature descriptors like *natural*, *botanical*, or *organic*, a detailed examination of their formulations shows that several contain synthetic compounds that may dilute the authenticity of these claims. For instance, *Pigeon Natural Botanical Baby Water Gel* and *Palmer's Moisturizing Body Oil* highlight the use of plant-derived oils but also include dimethicone and BHT, which are synthetic agents typically used for product texture and preservation.

Similarly, *The Body Shop Oils of Life* and *Emami 7 Oils in One Hair Oil* present themselves as oil-rich and nature-based but incorporate mineral oil and synthetic fragrance components, reflecting a tension between marketed natural identity and formulation reality. Products like *Nisa Hair Oil* and *Dabur Vatika Shikakai Hair Oil* claim to be 100% *natural*, yet their ingredient lists contain tocopheryl acetate and artificial colorants, which—though legally permissible—may challenge consumer expectations around purity. Meanwhile, *Wellace Amla Hair Oil* and *Palmer's Hair & Scalp Oil* highlight traditional botanicals like amla and coconut oil, but still rely on synthetic stabilizers and scent enhancers. In contrast, *CoNatural Organic Coconut Oil* aligns most closely with its natural claims, offering a minimal-ingredient profile free from synthetic additives. *Johnson's Baby Creamy Oil* also positions itself as mild and gentle, although it includes synthetic fragrance agents that somewhat undermine its natural positioning.

What distinguishes this study from prior research is its triangulated analysis of greenwashing, conducted through the *Tanz Model of Eco-Critical Discourse (TMED)*. This model combines linguistic and semiotic analysis with ingredient-level verification and consumer impact evaluation—a unique approach not commonly applied in earlier eco-critical studies. By cross-checking product label claims with actual ingredient lists, the study moves beyond surface-level advertising analysis and provides concrete evidence of misalignment between promotional narratives and formulation realities.

As highlighted by Mintel (2021), terms like “*natural*” and “*organic*” remain among the most compelling marketing buzzwords in the global beauty and wellness industry, yet they often lack strict regulatory definitions—making them particularly susceptible to greenwashing. The inclusion of such terminology can easily create a perception of safety, purity, and eco-consciousness, even when the product contains synthetic additives.

In light of these findings, it becomes evident that while many products incorporate some genuinely beneficial natural ingredients, the inclusion of synthetic additives complicates their green identities. This reinforces the need for more precise labeling regulations and a clearer legal definition of what constitutes a “natural” or “organic” product to safeguard consumer trust and discourage misleading eco-advertising. Previous dermatological and toxicological assessments have noted that certain synthetic agents used in oil-based cosmetics—such as isopropyl myristate, which has been associated with pore blockage and irritation, particularly for acne-prone or sensitive skin (Brinkmann & Müller-Goymann, 2003; CIR, 1982), and BHT (butylated hydroxytoluene), an antioxidant preservative shown in animal models to cause mild skin irritation or sensitization only at high concentrations (R. S. Lanigan & Yamarik, 2002) may, under specific exposure conditions or in sensitive individuals, be linked with skin irritation, comedogenic effects, or ecological persistence, underscoring the need for balanced formulation and transparent labeling in products marketed as “natural.”

5.2 Food and Beverages

The second category in this analysis examines food and beverage products, organized into seven distinct subcategories: energy drinks, fruit juices, ghee and cooking oils, honey, dairy products, grains and cereals, and herbal tea. Each subcategory comprises ten products, showcasing a wide range of consumer options within these essential dietary and lifestyle groups. This analysis explores the ingredients and claims of

these products to evaluate their authenticity, nutritional content, and alignment with advertised benefits. Through this examination, the study identifies patterns and potential inconsistencies in their claims and ingredient formulations. The first subcategory, energy drinks, sets the foundation for this evaluation.

5.2.1 Energy Drink

The first subcategory, energy drinks, features ten diverse products that cater to various consumer preferences for energy-boosting beverages. These include globally recognized brands and unique flavor variations such as Red Bull The Green Edition Energy Drink, Nestle Milo Active Go, and Java Monster Irish Crème. Additionally, options like Rip It Energy Fuel, V Energy Drink, and Sting Energy Drink provide distinct formulations at revitalizing energy levels. Other products in this subcategory include Nestle Fruita Vital Peach, Rockstar Revolt Green Apple Energy Drink, Schweppes Original Ginger Ale, and Mtn Dew AMP Energy Drink, each offering its own unique blend of ingredients and flavors to energize consumers. This section evaluates the claims associated with these products in conjunction with their ingredient compositions to determine the authenticity and accuracy of the advertised benefits. The following table represents the non-beneficial ingredients found in these energy drinks:

Table 5.5

Ingredients of Concern in Energy Drinks

Energy Drink	Ingredients of Concern
Red Bull The Green Edition	Sugar, Glucose, Artificial Flavors, Color
Nestle Milo Active Go	Sugars, Saturated Fat
Java Monster Irish Crème	Sugar, Saturated Fat, Cream, Artificial Additives
Rip It Energy Fuel	High Fructose Corn Syrup,

	Artificial Flavors, Red 40
V Energy Drink	Sugar, Caramel IV, Artificial Flavors
Sting Energy Drink	High Caffeine, Artificial Colors, Preservatives
Nestle Fruita Vital Peach	Added Sugar, Preservatives, Stabilizers, Artificial Colors
Rockstar Revolt Green Apple	High Sugar Content, Artificial Colors, Artificial Flavors
Schweppes Original Ginger Ale	Sugar, Preservative (211), Artificial Color
Mountain Dew AMP Energy Drink	High Fructose Corn Syrup, Artificial Colors (Yellow 5, Blue 1), Preservatives

Note. Ingredients raising concern about environment found in energy drinks.

The analysis of the selected energy drinks reveals a consistent pattern of strategic marketing that emphasizes vitality, natural appeal, and health-oriented features—often through terms like *energy*, *natural flavors*, *vitamins*, and specific botanicals such as *dragon fruit*, *guarana*, and *green apple*. However, a closer examination of ingredient composition unveils a misalignment between promotional narratives and actual formulations, reflecting tendencies aligned with greenwashing strategies.

For example, *Red Bull The Green Edition* prominently highlights *dragon fruit* but incorporates artificial flavors, subtly contradicting its implied natural theme. Similarly,

Nestlé Milo Active Go emphasizes benefits from *Protomalt* and *Active Go*, yet its high sugar content and added fats compromise the health-centric appeal.

Products like *Java Monster Irish Crème* and *Rip It Energy Fuel* attract consumers with gourmet or fruity labels—*Irish Crème*, *Melon*, etc.—yet rely heavily on added sugars, artificial flavors, and high-fructose corn syrup. These choices reduce the credibility of their energizing and natural positioning. Likewise, *V Energy Drink* and *Rockstar Revolt Green Apple* combine claims of *guarana* and *natural energy* with artificial flavors and excessive sugars, raising concerns about the authenticity of such health-forward branding.

Sting Energy Drink and *Mtn Dew AMP Energy Drink* emphasize *original energy* and *B-vitamin content* while containing synthetic preservatives and artificial colorants, making their natural or wellness-oriented positioning less convincing. Finally, drinks like *Nestlé Fruita Vital Peach* and *Schweppes Original Ginger Ale*, which promote *fruit essence* and *natural flavors*, also contain stabilizers, added sugars, and preservatives, suggesting a discrepancy between label imagery and ingredient reality.

These observations resonate with Harris et al. (2011), who noted that many energy and sugary drinks are marketed using health-oriented buzzwords, despite containing high levels of sugar and additives that contradict such health claims.

What sets this study apart is its focused verification of these claims through direct ingredient analysis rather than relying solely on existing classifications or consumer surveys. By triangulating brand language, visual cues, and ingredient data, the study offers a unique corpus-based, mixed-method investigation of how energy drink labels construct an eco-health narrative. Moreover, the identification of ingredients with limited nutritional contribution—especially in products marketed as “natural” or “energizing”—adds a critical layer to understanding how persuasive discourse can obscure health trade-offs.

These findings call for more transparent labeling standards and consumer education, particularly as energy drinks increasingly occupy a hybrid space between refreshment and wellness products. The nuanced strategies uncovered in this category underscore the need to re-examine how linguistic and semiotic tools are used to influence consumer choices within the framework of eco-critical discourse. Nutritional and public health research has documented that certain commonly used additives in energy drinks—such as high-fructose corn syrup and synthetic colorants—may, when consumed in excess, be associated with metabolic concerns, dental caries, or hypersensitivity reactions

in susceptible individuals, reinforcing the importance of moderation and transparent labeling in products marketed as “natural” or “health-oriented” (White, 2008; Stevens et al., 2013).

5.2.2 Fruit Juices

The second subcategory, fruit juices, encompasses ten diverse products that offer a variety of flavors to cater to different consumer preferences. This selection includes popular mango-based options such as Nestle Fruita Vitals Chaunsa, Slice Mango, Shezan All Pure Mango Nectar, Fresher Mango Juice, and Maaza Mango. Additionally, unique flavors like Shezan Twist Lychee and Cappy Pulpy Orange Fruit Drink add variety to this category. Products such as Mepro Grewia Berry Juice & Basil Seed, Vivo Peach Juice Drink, and Rauch White Grape further enhance the range, providing alternatives for those seeking different taste profiles. This section evaluates the claims made by these products and their ingredient compositions to assess the accuracy and authenticity of their advertised benefits. The upcoming table shows the harmful ingredients found in their labels:

Table 5.6*Ingredients which compromised naturalness in Fruit Juices*

Fruit Juices	Compromised Naturalness Ingredients
Nestle Fruita Vitals Chaunsa	Sugar, Stabilizers (INS 466, 440, 415), Citric acid, Permitted food color (INS 160a)
Slice Mango	Sugar, Acidity regulator (E330), Stabilizer (E202), Permitted food colors (E102, E110)
Shezan All Pure Mango Nectar	Sugar, Citric acid, Preservative (E211), Stabilizer (E466), Beta carotene (E-160a)
Fresher Mango Juice	Sugar, Preservatives (E202/E211), Stabilizers (E412), Acidity regulator (E331), Food color (E160a)
Maaza Mango	Sugar, Citric acid, Preservatives (E211, E224), Stabilizer (E466), Natural and artificial mango flavor
Shezan Twist Lychee	Sugar, Preservative (E211), Stabilizer (E466), Citric acid
Cappy Pulpy Orange	Sugar, Citric acid, Stabilizers (acacia gum, glycerol ester of wood rosin), Beta-carotenes (INS 160aaii)
Mepro Grewia Berry & Basil	Sugar, Citric acid (E330), Gelling agent (E418), Food color
Vivo Peach Juice Drink	Sugar, Citric acid (E330), Stabilizers (E-466, E-412), Preservatives (E-211, E-202), Artificial flavor
Rauch White Grape	Sugar, Citric acid

Note. Compositions which dilute naturalness detected in fruit juices.

The analysis of ten fruit juice products reveals a recurring pattern in which the perceived naturalness of the products is compromised due to discrepancies between their marketed claims and actual compositions. These products often employ fruit-centric branding and visual cues to construct an eco-friendly and health-conscious identity, yet many include high levels of added sugars, stabilizers, and artificial components, raising concerns regarding the authenticity of such claims.

For example, *Nestlé Fruita Vitals Chaunsa* emphasizes its association with Chaunsa mango and promotes a fresh, fruit-based appeal. However, its reliance on added sugars and stabilizers suggests a gap between its projected image and its actual formulation. *Slice Mango* also highlights mango prominently while downplaying the *fruit drink* label in smaller font, with only 5% mango purée and the inclusion of additives—illustrating a subtle disjunction between its natural imagery and ingredient reality.

Products such as *Shezan All Pure Mango* and *Fresher Mango Juice* similarly lean on language such as *all pure* and *fresher*, respectively, to construct a wholesome perception. Yet, both products contain preservatives and added sugars, suggesting a hybrid formulation that does not fully align with their pure or natural branding. While *Maaza Mango* includes a relatively higher pulp content, its artificial flavors and preservatives present similar contradictions.

The use of exotic fruit references, as in *Mepro Grewia Berry Juice & Basil Seed*, creates an impression of uniqueness and healthfulness. However, the product's high sugar content may undermine the nutritional advantages typically associated with such ingredients. Likewise, *Cappy Pulpy Orange* and *Rauch White Grape* promote vitamin-rich and high juice content messages, yet both rely on synthetic additives and sugar to enhance taste and shelf life.

These findings suggest that while such beverages often do contain some level of fruit-derived ingredients, they also incorporate synthetic substances and refined sugars that dilute their natural integrity. This blend of authentic and artificial elements may contribute to green rhetoric, where the language and visuals surrounding health, purity, or freshness are not fully representative of the product's composition.

The current study adds to the discussion by highlighting how strategic font resizing, ingredient omissions, and selective framing are used in product packaging to elevate perceptions of naturalness. This aligns with eco-linguistic perspectives on greenwashing, where language choices, visuals, and layout are strategically curated to influence consumer perception.

As noted by the Food Standards Agency (2002), a “pure product” is one that contains a single ingredient without additives or contamination, while the Punjab Pure Food Regulations (2018) define “fresh” as unprocessed, raw, and free from thermal or chemical preservation. Most of the analyzed products partially meet these standards but include elements that challenge their alignment with such definitions.

Thus, this category reveals how fruit juice products contribute to eco-friendly branding through selective semiotic and linguistic representation, underscoring the need for more precise labeling and greater transparency in food marketing. Recent scientific reviews have cautioned that frequent consumption of additives such as sodium benzoate and artificial azo dyes—particularly Sunset Yellow FCF (E110)—may, especially in sensitive individuals or in combination with other ingredients, be associated with inflammatory responses, digestive discomfort, and behavioral effects like increased hyperactivity (McCann et al., 2007; Guo et al., 2022).

5.2.3 Ghee and Cooking Oils

The third subcategory, ghee and cooking oils, comprises a selection of ten widely used products catering to diverse culinary needs. This category includes premium options like Eve Premium Quality VTF Banaspati and Kashmir Banaspati Gold, alongside trusted household names such as Kisan Banaspati and Seasons Banaspati. Products like Soya Supreme Banaspati and Habib Banaspati further contribute to the variety within this segment. Additionally, cooking oils such as Sufi Sunflower Cooking Oil, Dalda Fortified Sunflower Cooking Oil, Mezan Cooking Oil, and Kisan Super Cooking Oil offer versatile choices for frying, baking, and everyday cooking. This section evaluates the claims and ingredient compositions of these products to determine their alignment with the nutritional and quality standards advertised. The following table provide the non-beneficial ingredients found among these products:

Table 5.7*Ingredients Influencing Natural Perception in Ghee and Cooking Oils*

Ghee and Cooking Oils	Ingredients Influencing Natural Perception
Eve Premium Quality VTF Banaspati	None explicitly harmful, but lacks specific oil breakdown.
Kisan Banaspati	Palmolein, Palm Oil (high in saturated fats).
Seasons Banaspati	Palm Oil, Cottonseed Oil (high in saturated fats).
Soya Supreme Banaspati	High saturated fats in palm oil; lacks explicit trans-fat breakdown.
Kashmir Banaspati Gold	Palmolein (high in saturated fats).
Sufi Sunflower Cooking Oil	None explicitly harmful.
Dalda Fortified Sunflower Cooking Oil	Artificial foaming agent.
Mezan Cooking Oil	None explicitly harmful.
Kisan Super Cooking Oil	None explicitly harmful.
Habib Banaspati	Artificial food flavor, Palm Oil (high in saturated fats).

Note. Ingredients Influencing Natural Perception in ghee and cooking oils found from ingredient lists.

The linguistic and compositional analysis of cooking oils and banaspati products uncovers a pattern where brand narratives often emphasize health-related claims such as being fortified with vitamins, low in cholesterol, or made with heart-healthy oils like sunflower or canola. Products such as those marketed as *fortified*, *premium quality*, or *cholesterol-free* attempt to establish credibility and appeal to health-conscious consumers. These positive attributes are prominently featured in packaging, brand names, and green-coded labels, constructing an image of wholesomeness and nutritional value.

However, the ingredients listed on the back of the packaging reveal a more complex reality. A number of products contain components such as palmolein, hydrogenated oils, and stabilizers, which—while not illegal—can contradict the health-focused image suggested by the front-facing claims. Moreover, several product labels offer limited transparency, using broad terms like *vegetable oil* or *permitted antioxidants*, leaving room for ambiguity. This blend of strategic emphasis and selective omission is consistent with recognized greenwashing techniques, where consumers are encouraged to focus on the good while critical nutritional details are visually or linguistically minimized.

In support of this finding, publicly available data from the Punjab Food Authority (2019) revealed that seven out of the ten sampled products in this category were included in the list of brands flagged for not meeting food safety or quality parameters at the time. While specific reasons for disqualification varied—such as excessive trans fats, non-compliance in processing, or ingredient inconsistencies—this overlap underscores a misalignment between regulatory evaluations and the marketed health narratives of the products.

This research offers a distinct contribution by cross-verifying promotional language with both ingredient disclosures and independent regulatory reports. The resulting analysis not only adds empirical depth to the study of greenwashing but also strengthens the case for enhancing label transparency, standardized definitions of terms like *fortified* or *cholesterol-free*, and more informed consumer literacy in eco-health advertising. Scientific literature consistently indicates that hydrogenated oils—commonly used in certain cooking oils and banaspati formulations—may contribute to increased LDL (“bad”) cholesterol and a higher risk of cardiovascular disease when consumed regularly (WHO, 2024; Sun et al., 2015; Esmailzadeh & Azadbakht, 2011).

5.2.4 Honey

The honey subcategory comprises ten prominent products that cater to various consumer preferences and health-conscious needs. This category includes well-known local options like Hamdard Honey, Qarshi Honey, and Marhaba Honey, which are valued for their quality and traditional significance. International brands such as Langnese Pure Bee Honey and Al Shifa Natural Honey provide premium choices for consumers. Additionally, products like Salman's Pak Honey, HibaLife Orange Honey, and Young's Bee Hive Natural Honey offer unique flavors and natural attributes. Local specialties like

The Natural Swat Bee Honey and Hashmi Honey further enhance this category with their regional authenticity. This section evaluates the ingredients and claims of these honey products to determine their purity, nutritional benefits, and alignment with their marketed promises. The following table provide the list of ingredients found in these honey products:

Table 5.8

Ingredients List of Honey Products

Honey	Ingredients
Hamdard Honey	Honey, flavonoids, organic acids, vitamins, enzymes, amino acids, minerals (calcium, iron, magnesium, etc.)
Qarshi Honey	Pure Honey
Marhaba Honey	Filtered Honey
Langnese Pure Bee Honey	Liquid Honey, 100% Pure Bee Honey
Salman's Pak Honey	Natural honey
HibaLife Orange Honey	Honey
Young's Bee Hive Natural Honey	Natural Honey
Al Shifa Natural Honey	Natural honey
The Natural Swat Bee Honey	Natural Honey
Hashmi Honey	Honey, natural protein, minerals, vitamins, pollens

Note. Ingredients of honey products found from their labels.

The ingredient and packaging analysis of the listed honey brands reveals noticeable discrepancies between their environmental claims and actual practices,

particularly when examined from a greenwashing perspective. Most brands prominently display terms such as *100% pure*, *natural*, or *organic*, which suggest a commitment to ecological and health-oriented values. However, a closer inspection highlights contradictions that raise concerns about the authenticity of these claims. For example, *Hamdard Honey*, *Marhaba Honey*, and *Salman's Pak Honey* advertise themselves as natural or pure, yet their use of plastic packaging undermines their eco-conscious branding, as plastic is known for its environmental footprint. Similarly, *The Natural Swat Bee Honey* and *Al Shifa Natural Honey* use plastic containers despite promoting themselves as *natural*, reflecting a divergence between brand image and sustainable practice.

Some brands go further in asserting green identity. *HibaLife Orange Honey*, for instance, claims to be *100% Organic*, but does not provide any certification from an organic regulatory body, raising doubts about the verifiability of such claims. *Young's Bee Hive Natural Honey* and *Hashmi Honey* also assert health-related and nature-friendly benefits but package their products in non-biodegradable materials, challenging the credibility of their environmental positioning. In contrast, only *Qarshi Honey* and *Langnese Pure Bee Honey* use glass bottles, which better align with ecological principles and offer a degree of packaging transparency.

While earlier scientific studies, such as Kamal and Klein (2011), have explored honey authenticity through chemical testing and laboratory validation, there has been limited focus on the linguistic and semiotic dimensions of how purity and sustainability are marketed. This research uniquely contributes by adopting an eco-critical discourse approach, examining how language and visuals on honey labels construct an image of environmental responsibility that may not align with the actual product. By bridging the gap between scientific authenticity and linguistic representation, this study adds a new interdisciplinary dimension to greenwashing research, particularly within the domain of everyday consumables like honey.

5.2.5 Dairy Products

The dairy products subcategory encompasses ten diverse items that provide various culinary and dietary needs. This selection includes staples like Dairy Pure, Nestle Yogurt, and Adam's Yoghurt, which are widely recognized for their quality and nutritional benefits. Products such as Nestle Milk Pak Salted Dairy Butter and Mumtaz Spreadable Margarine cater to the demand for versatile spreads. Blue Band Margarine

Spread and Kraft Processed Cheddar Cheese provide additional options for enhancing everyday meals. Specialty items like Whippy Whip Whipping Cream and Polac Sweetened Condensed Filled Milk add convenience for baking and desserts. Finally, Young's Maska Breakfast Spread offers a flavorful option for breakfast. This section examines the ingredients and claims associated with these products, focusing on their nutritional value and alignment with advertised benefits. These following table shows the combination of ingredients in dairy products:

Table 5.9

Ingredient List of Dairy Products

Product	Animal-Based Ingredients	Plant-Based Ingredients	Chemical Ingredients
Dairy Pure	Milk	Low Fat Milk	Stabilizers
Nestle Yogurt	Milk, Milk Solids, Culture	Sugar	Stabilizer (INS 428)
Adam's Yoghurt	Milk	Sugar	Stabilizer (Halal Gelatin)
Nestle Milk Pak Salted Dairy Butter	Milk Cream	Sodium chloride	Culture (Soya Lecithin), Permitted Food Color (INS160a)
Mumtaz Spreadable Margarine		Hydrogenated Palm oil, Water, Palm Kernel Oil, Refined Palm Oil & fractions, Soyabean oil	Emulsifiers (E471, E322), Preservative (E202), Antioxidants (E320, E321), Vitamin A & D, color (E160a)
Blue Band Margarine Spread	Milk Powder	Water, Vegetable Oils (Canola, Sunflower, Palm, Soyabean)	Emulsifiers (Soya Lecithin, Mono and Diglycerides), Preservative (Potassium Sorbate), Antioxidant (BHT), Vitamins (A & D3), Natural Identical Color (B-Carotene)

Kraft Processed Cheddar Cheese	Cheddar Cheese, Butter, Milk Solids	-	Emulsifiers (E341, E331, E339), Salt, Thickeners (E407, E410, E415), Acid Regulator (E270), Preservatives (E200, E234)
Whipy Whip Whipping Cream	Milk Solid	Corn Syrups, Sugar, Water, Partially Hydrogenated Palm Kernal Oil	Emulsifier (Sodium Stearoyl Lactylate), Thickeners (Methylcellulose, Xanthan Gum), Salt, Flavor
Polac Sweetened Condensed Filled Milk	Milk Ingredient	Sugar, , Vegetable Fat (Palm Oil)	Food Conditioners, Vitamins (A, D3, B1), Lactose
Young's Maska Breakfast Spread	Concentrated Butter, Milk Solids	Vegetable Oil (may contain soybean oil)	Modified Food Starch (E-1442, E-1450), Preservatives (Potassium Sorbate, Nisin), Stabilizer (Xanthan Gum), Sequestrant (Calcium Disodium EDTA), Color (Beta Carotene)

Note. Plant based and chemical based ingredients found in dairy products.

The comparative analysis of dairy-based products—including yogurt, butter, margarine, cheese, cream, and spreads—reveals a pattern of strategically framed health and naturalness claims that often obscure the actual ingredient compositions. While these products commonly highlight their milk-based origin or nutritional value, a closer inspection of their contents shows the integration of multiple processed and synthetic components that may alter consumer perception.

For instance, *Dairy Pure* and *Nestlé Yogurt* include milk and milk solids, but also contain stabilizers such as E471 and INS 428, which can alter the texture and shelf life, subtly undermining the perception of a pure, unprocessed product. Similarly, *Adam's Yoghurt* utilizes halal gelatin—a derivative not suitable for vegetarian consumers—without explicitly indicating its source, which can mislead ethical or dietary-based

consumer choices. *Nestlé Milk Pak Salted Dairy Butter*, while emphasizing milk cream and natural fats, also incorporates emulsifiers like soya lecithin and colorants that challenge its wholesome image.

Mumtaz Spreadable Margarine and *Blue Band Margarine Spread* position themselves as healthier alternatives by highlighting plant-based oils, yet their inclusion of hydrogenated palm oil, preservatives (E202), and synthetic antioxidants diminish their alignment with eco-conscious branding. *Kraft Processed Cheddar Cheese* promotes real cheese content but integrates thickeners and emulsifiers (E341, E331), reflecting a more industrial formulation than suggested by its claims. *Whipy Whip Whipping Cream*, *Polac Sweetened Condensed Filled Milk*, and *Young's Maska Breakfast Spread* also feature similar combinations of dairy and synthetic additives, projecting a more natural and health-supportive image than is substantiated by their full ingredient lists.

These findings align with the linguistic and semiotic strategies observed throughout the product labels—where front-of-pack visuals, keywords like *fresh*, *natural*, and *wholesome*, and eco-toned packaging work together to construct an idealized perception. While the actual compositions contain a complex mix of plant, animal, and chemical components, this multimodal discourse often masks industrial processing and synthetic inclusion, reinforcing greenwashing tendencies.

Prior scientific studies, such as *Mohan et al. (2014)*, have assessed processed dairy products from a chemical and food safety perspective in the Indian market. However, the present study diverges by adopting an eco-critical discourse lens, focusing on how product labels linguistically and semiotically convey environmental and health-related credibility. This approach contributes an exceptional perspective, bridging the gap between scientific ingredient analysis and linguistic representation, and demonstrating how greenwashing operates not only through what is included in the product—but also through what is emphasized, omitted, or visually manipulated on the label. Recent cohort-based research indicates that frequent consumption of emulsifiers such as mono- and diglycerides of fatty acids (E471) and lecithin (E322) may, over time or in susceptible individuals, be associated with changes in gut microbiota, inflammation, or increased risk of chronic conditions—highlighting the need for moderation and transparent labeling, especially in products promoted as natural or healthy (Sellem et al., 2024).

5.2.6 Grains and Cereals

The grains and cereals category offers a variety of products that highlight the relationship between ingredient composition and product claims. Items like Nutrilov - Crunchy Cereal Berry Blast and Fauji Wheat Flakes emphasize natural and wholesome ingredients, appealing to health-conscious consumers. Similarly, Oat Som Instant Oatmeal Banana & Nuts promotes its use of oats and natural flavors, aligning with claims of being a nutritious option. Infant-focused products such as Nestle Cerelac and Milna Baby Rusk emphasize essential nutrients for growth, supported by fortified vitamins and minerals. Nestle Cerelac Nature's Selection Cereal, Multigrain, Dates & Bananalicious reinforces its natural and nutritious claims with multigrain and fruit-based ingredients. Products like Kellogg's Granola Classic Oat Clusters, Alpen Fruit & Nut Cereal Bars, and Fauji Choco Rings cater to diverse preferences with claims of high fiber, energy-boosting properties, and indulgent flavors. While some products prominently feature key ingredients on their front labels, others may omit certain details, raising concerns about transparency and potential greenwashing. Examining the alignment between ingredient compositions and claims helps consumers make informed choices. Following table provide the major ingredients found in these products:

Table 5.10

Carbohydrates, Sugar and Dietary Fiber Distribution in Grains and Cereals

Product	Total Carbohydrates (g)	Dietary Fiber (g)	Sugars (g)	Additional Notes
Nutrilov - Crunchy Cereal Berry Blast	66.3	7.4	-	Sugar available in ingredient list but omitted in breakup
Fauji Wheat Flakes	85	8.0	7	Difference create ambiguity

Oat Som	82	9.6	32	Difference
Instant Oatmeal				create
Banana & Nuts				ambiguity
Nestle Cerelac	70	3	-	Sugar available
				in ingredient
				list but omitted
				in breakup
Milna Baby	80	1.6	30	Difference
Rusk				create
				ambiguity
Nestle Cerelac	66	0.16	-	Sugar available
Nature's				in ingredient
Selection				list but omitted
Cereal,				in breakup
Multigrain,				
Dates &				
Bananalicious				
Kellogg's	62	4.4	21 + 20	Difference
Granola Classic				create
Oat Clusters				ambiguity
Searle Prep-Up	73	4.2	39	Difference
Baby Cereal				create
Wheat Milk &				ambiguity
Fruits				
Alpen Fruit &	73	3.4	29	Difference
Nut Cereal Bars				create
				ambiguity

Note. High level of sugar found in the grains and cereals.

The analysis of sugar content in the selected food products reveals discrepancies between the marketed health narratives and the actual nutritional profiles, particularly

with regard to sugar levels. Many of these products are framed through language emphasizing wellness, vitality, or suitability for children and families. However, the quantitative sugar data suggests a more nuanced reality. Several items—such as *Nutrilov Crunchy Cereal Berry Blast*, *Nestlé Cerelac*, and *Fauji Wheat Flakes*—exceed the World Health Organization’s (2015) recommended sugar intake limit of 25g per day, with some containing as much as 39g per 100g serving.

In several cases, sugar is mentioned in the ingredient list but not transparently presented in the nutritional breakdown, creating a level of interpretive ambiguity for consumers. For example, *Nestlé Cerelac* includes sugar in its composition yet lacks a corresponding numerical sugar value in its nutritional table. Similarly, *Kellogg’s Granola Classic Oat Clusters* distinguishes between naturally occurring and added sugars (21g and 20g respectively), a detail that, while seemingly informative, may lead to confusion among general consumers unfamiliar with such categorizations. This strategic use of terminology and segmented sugar categories contributes to the construction of a health-oriented product identity that may not fully align with consumer expectations.

While studies in nutritional science have explored the associations between high sugar intake and outcomes such as weight gain, metabolic changes, and cardiovascular stress (Ma et al., 2022), the current research contributes a different lens by examining the discursive framing of sugar. It shifts the focus from physiological outcomes to how language, visual cues, and layout choices on packaging mediate the perception of healthfulness.

Additionally, a subset of products incorporates ISO certifications, particularly ISO 2015, as a discursive strategy to establish legitimacy and compliance with quality standards. However, environmental certifications such as ISO 14000 or ISO 14001, which signal eco-conscious manufacturing practices, are rarely observed. As discussed by Khan et al. (2021), such certifications can substantiate environmental claims and align with broader sustainability discourses. Their limited presence on products promoting ecological or family-safe imagery invites critical inquiry into selective representation and brand positioning.

This research uniquely contributes by identifying how quantitative nutritional data intersects with qualitative discursive framing on packaging. Unlike prior scientific analyses focused solely on health outcomes, this study applies an eco-critical discourse perspective, uncovering the linguistic and semiotic mechanisms that may inadvertently

contribute to perceived naturalness and trustworthiness, even when nutritional clarity is partial or selectively communicated.

5.2.7 Herbal Tea

The herbal tea category offers a different selection of products that cater to different tastes and wellness needs, with a strong emphasis on ingredient composition and product claims. Refreshing options such as Vital Tea Lemon Green Tea, Tapal Green Tea Lemon Grass, and Tapal Green Tea Jasmine highlight natural ingredients and aromatic blends, aligning with claims of promoting relaxation and revitalization. Unique offerings like Vital Pink Kashmiri Tea and Lipton Green Tea - Luscious Mixed Berries combine traditional and modern flavors while emphasizing natural fruit and floral components to support their claims of a premium tea experience. Wellness-focused teas, including Vital Enveloped Chamomile Tea and Earth Bar Organic Lemon Grass Tea, stress their calming and organic properties, often verified by the inclusion of certified organic herbs. Meanwhile, products such as Slim Fast Pure Organic Sliming Herb Tea, Masood Moringa Organic Tea, and Slimax Sliming Herb Tea Bags focus on health benefits like detoxification and weight management, supported by herbal components like moringa, slimming herbs, and green tea extracts. Analyzing the alignment between ingredient composition and claims ensures transparency and helps consumers verify the accuracy of the stated benefits. The following table provide the list of ingredients of these herbal teas:

Table 5.11

Ingredient list of Herbal Tea Products

Product Name	Ingredients	Notes
Vital Tea Lemon Green Tea	Green Tea	No additional flavorings or additives.
Tapal Green Tea Lemongrass	Green Tea, Lemongrass, Natural Identical Lemon Flavor	Contains added natural lemon flavor.
Tapal Green Tea Jasmine	Green Tea, Jasmine Flowers	Contains jasmine flowers for flavor.
Vital Pink Kashmiri Tea	Green Tea	No additional flavorings

		or additives.
Lipton Green Tea - Luscious Mixed Berries	Green Tea, Nature Identical Mixed Berry Flavor, Flavored Green Tea	Contains artificial berry flavor.
Vital Enveloped Chamomile Tea	Green Tea, Chamomile	Chamomile added for flavor and benefits.
Earth Bar Organic Lemongrass Tea	No ingredient list provided	No details available.
Slim Fast Pure Organic Slimming Herb Tea	Camellia Seeds, Camellia Flower, Senna Leaves, Cinnamon, Lemongrass, Other Herbs	Herbal blend for slimming purposes.
Masood Moringa Organic Tea	Fresh Dried Moringa Oleifera Leaves, Mountain Green Tea	Contains moringa leaves and green tea.
Slimax Slimming Herb Tea Bags	No ingredient list provided	No details available.

Note. Some teas did not provide ingredient list.

The marketing and packaging of the analyzed tea products illustrate subtle strategies that align with green-themed branding but raise concerns about the consistency between claims and actual practices. Through the use of evocative terms such as *green tea*, *lemongrass*, and *jasmine*, brands tap into discourses of wellness, purity, and eco-consciousness, constructing a semantic field that appeals to health-minded and environmentally aware consumers. However, upon closer examination, a gap emerges between this constructed image and certain compositional or material aspects of the products.

For instance, products such as *Vital Tea Lemon Green Tea* and *Tapal Green Tea Lemongrass* incorporate phrases like *natural lemon flavor* or *lemongrass essence*, yet include ingredients such as nature identical flavoring agents, which, while technically

permitted, may reduce the perceived naturalness of the product. In addition, some brands subtly suggested organic qualities through their visuals and wording without providing any verifiable organic certification. This absence of certification or traceable sourcing weakens the credibility of their organic or nature-friendly branding.

The use of non-biodegradable plastic jars in many of these products further conflicts with their eco-friendly rhetoric. Expressions such as *stay in shape made delicious* and *nature's vitality in every cup* function as metaphorical framings that suggest health and natural wellness without offering specific evidence of sourcing or environmental sustainability. From an eco-critical discourse analytical perspective, this represents a semiotic and ideological technique where imagery, lexical choices, and packaging converge to promote a green image—one that may not always be substantiated by product practices.

While previous research on food and personal care labeling (e.g., Gupta, 2015; Ahmad & Zhang, 2020) has exposed similar marketing practices, this study extends eco-linguistic critique to the tea beverage category, offering an original contribution through its combination of semiotic, linguistic, and ingredient-based analysis. By uncovering the gap between advertised values and certified standards, this research highlights the importance of transparent eco-labeling and substantiated claims in promoting genuine environmental responsibility.

5.3 Corpus Integration to Prove Greenwashing

To examine the depth of eco-claims, the study utilized a carefully structured dataset comprising 110 front labels and 110 back labels of consumer products. While the front-facing content provided access to promotional discourse, including frequent lexical items such as *pure*, *natural*, *organic*, and *herbal*, the back labels served as an essential cross-reference, disclosing the actual chemical and nutritional composition of the products. Together, these layers generated over 10,000 tokens, offering a rich textual field for examining the tension between language and content.

Rather than serving as an end in itself, this corpus enabled a focused investigation into how greenwashing operates at both linguistic and compositional levels. Keywords often associated with environmental purity were found alongside ingredients such as *sodium benzoate*, *sodium laureth sulfate*, *sodium hydroxide*, *trans fats*, and various synthetic preservatives — elements rarely highlighted on the front but crucial to understanding the reality behind marketed claims.

By aligning a targeted set of concordance extractions with ingredient verification, the research revealed patterns of strategic omission, vague health descriptors, and eco-aligned branding unsupported by back-label data. Thus, the corpus was not merely a linguistic collection but a means to evidence disconnect between green claims and actual formulations. This approach reinforced the credibility of the proposed eco-critical discourse model, positioning it as a novel framework for revealing greenwashing in consumer marketing.

These findings are quantitatively illustrated in Table 5.12, which maps the frequency of front-label claims against the presence of contradictory ingredients, highlighting the underlying inconsistencies that characterize greenwashing discourse.

Table 5.12

Frequencies of Common Green Claims on Front Labels and Contradictory Ingredients on Back Labels (N = 110)

Claim / Ingredient	Frequency on Front Labels	Contradictory Back Label Ingredients
Pure	18	—
Natural	28	Sodium Benzoate (11), SLS (7)
Organic	11	Not certified, contains INS additives
Herbal	11	Synthetic bases, parabens
Energy	19	High sugar ($\geq 29\text{g}$), caffeine
Healthy	8	Trans fats, preservatives
Green (in name/design)	7	Artificial colors (e.g., CI, INS)
Fruit	10	<10% actual content in many cases
Purifying	5	Sodium hydroxide, alcohol
Neem	4	Harsh surfactants present
Sugar / Sucrose (hidden)	—	Present in 36+ products
Trans Fat (undeclared)	—	Found in 18+ products

Note. Claims were thematically coded from front-of-pack labels; contradictions were identified through ingredient analysis of back labels. Products may contain multiple claims and multiple contradictions. Total front label tokens = 2,304; back label tokens = 8,182.

The table above offers empirical support for the core argument of this study: that front-label eco-claims are often not substantiated by the product's actual composition.

The repeated appearance of promotional keywords such as *natural*, *organic*, and *pure* on the front labels coincided with the frequent use of synthetic or industrial ingredients on the back labels, including *sodium benzoate*, *trans fats*, and *sodium laureth sulfate*. This dissonance suggests a pattern of greenwashing, where eco-friendly language serves more as a branding tool than an accurate reflection of product integrity. These findings validate the necessity of a multi-layered analytical model, as proposed in this research, to decode the ideological and material contradictions embedded in green-marketed products.

CHAPTER 6

CONCLUSION

After the successful completion of this research, it is evident that greenwashing remains a prevalent issue across various industries, where brands create a significant disparity between their sustainability claims and the actual composition of their products. This study has provided a comprehensive analysis of greenwashing strategies, highlighting how companies present eco-conscious messaging that often contradicts the reality of their ingredients and production practices.

6.1 Deceptive Greenwashing Tactics in Healthcare Product Labeling

The findings related to the first research question indicate that health supplements, skincare, hair care, and massage oil products frequently adopt marketing strategies that emphasize environmental and health-friendly associations. These products often feature natural imagery, such as leaf symbols and plant-inspired visuals, complemented by eco-oriented color schemes like green and earthy tones, to evoke perceptions of sustainability. Terms including organic, natural, herbal, and non-GMO are commonly used to enhance consumer confidence and convey an eco-conscious brand identity. In some cases, the presence of synthetic components or less sustainable production aspects is not prominently highlighted, which may lead consumers to focus more on the environmentally aligned messaging. Furthermore, packaging design elements—such as shapes, fonts, and layouts—are aligned with these thematic claims, strengthening the intended health and environmental narrative. In this way, such strategies capitalize on growing consumer interest in sustainability while potentially limiting attention to the complete environmental and health profiles of the products.

6.2 Greenwashing Strategies in Food and Beverages Product Labeling

Across diverse product categories—including energy drinks, fruit juices, ghee, honey, dairy, grains, cereals, and herbal teas—the study observed recurring semiotic and linguistic patterns that frame products in terms of naturalness, health, and environmental responsibility. Design and wording choices, such as vibrant colors, nature-themed imagery, organic shapes, bold typography, and persuasive descriptors, frequently aligned with themes of sustainability, purity, and authenticity. In some cases, supporting evidence for these claims was not prominently foregrounded, and certain ingredient details or

production aspects received minimal emphasis. Words like natural, pure, and eco-friendly, together with visual cues such as leaves, flowers, and earth tones, appeared central to this messaging. These strategies, while resonating with eco-conscious consumer values, may blur the distinction between genuinely sustainable practices and thematic sustainability marketing, underscoring the importance of transparency in product communication.

6.3 Greenwashing Across Healthcare Products

The findings related to the second research question indicate that health-related claims framed through green language in eco-advertisements often present an idealized image of environmental and wellness benefits. Across four product categories—health supplements, skincare, hair care, and massage oils—brands frequently combine eco-associated language with nature-themed visuals to highlight perceived advantages. In healthcare products, for instance, terms such as immune support and balanced nutrition are often accompanied by imagery of natural ingredients, while less emphasis is placed on elements such as elevated sugar content. Skincare advertisements may feature expressions like 100% organic or herbal innovation alongside green color schemes and eco-symbols, yet their formulations sometimes include synthetic components. Hair care products frequently foreground ingredients such as neem and Aloe Vera, though their use of synthetic surfactants contrasts with the natural image presented. Similarly, massage oils employ terms like botanical or cold-pressed, yet may incorporate synthetic additives or packaging that is less sustainable. These patterns suggest that green language can be used in ways that priorities persuasive appeal over full disclosure, highlighting the need for greater alignment between marketing messages and product composition.

6.4 Greenwashing in Food and Beverage Marketing: Deceptive Practices and Consumer Misconceptions

Greenwashing observed in energy drinks, fruit juices, ghee, cooking oils, honey, dairy, grains, cereals, and herbal teas reflects the use of integrated visual, linguistic, and semiotic techniques to convey an enhanced perception of health and sustainability. These products frequently incorporate nature-inspired imagery, eco-symbols, and terms such as natural, pure, and organic to reinforce a wholesome brand image, while aspects such as artificial additives, elevated sugar levels, or less sustainable production practices may receive less emphasis. Such approaches can cultivate an impression of environmental

responsibility and healthfulness that is not fully supported by the product's composition or sourcing. Addressing these issues calls for strengthened regulatory frameworks, greater transparency, and clearer labelling standards to ensure that marketing messages align more closely with actual product attributes.

6.5 Practical Implications

The findings of this study offer constructive insights for multiple stakeholders. For policymakers, the results highlight the importance of clear guidelines and monitoring mechanisms to ensure that environmental claims on product labels are linguistically precise and supported by verified standards. For example, the Organic Foods Production Act (1990) in the United States regulates the use of “organic” labeling, preventing misleading claims and ensuring that only products meeting specific criteria can carry this term. Implementing similar rules in Pakistan would encourage producers to carefully consider the language they use, reducing the misuse of terms like *herbal*, *pure*, or *organic* and fostering trust in eco-advertising. For educators, the study provides a framework that can be incorporated into media literacy and sustainability curricula, enabling learners to critically interpret the language of green claims. For consumers, the research offers practical perspectives for decoding environmental messages, supporting informed decision-making. By promoting transparent and responsible linguistic strategies in eco-advertising, the study contributes to more credible marketing practices and reinforces genuine sustainability efforts.

6.6 Directions for Future Research

The present study introduces the Tanz Model of Eco-Critical Discourse Analysis (TMED), a practical and adaptable framework that integrates linguistic analysis, semiotic interpretation, ingredient/compliance verification, and socio-ideological evaluation to address environmentally suggestive marketing. Future research can extend and refine the TMED across varied industries, media platforms, and cultural contexts to test its adaptability and analytical robustness. In particular, applying the model beyond physical product labels to digital, televised, and social media eco-advertisements could capture the full spectrum of contemporary sustainability-related promotional strategies.

Given Pakistan's multilingual environment, future studies could employ the TMED in cross-linguistic and cross-cultural contexts, exploring how environmentally themed narratives shift across languages, regional dialects, and cultural norms. Integrating gender studies and socio-economic perspectives would also add depth, as

many eco-positioned products are tailored to specific gender identities or market segments. Such an approach could reveal how sustainability messaging intersects with social dynamics and consumer patterns.

Linguistics-focused research should further examine how persuasive language, metaphors, idiomatic expressions, and lexical choices such as natural, pure, and eco-friendly contribute to shaping perceptions of environmental responsibility. Semantic and pragmatic analysis across languages could highlight the cultural nuances influencing consumer interpretation.

From a regulatory standpoint, future work could investigate areas of improvement in product labeling laws and propose policy measures to enhance clarity and consistency in environmental marketing. Comparative studies across industries could identify which sectors place greater emphasis on eco-positioning, and what structural or market factors drive such communication practices. Applying AI-assisted identification tools, lab-based verification of product attributes, and consumer education program assessments could help evaluate both the prevalence of sustainability-oriented claims and the effectiveness of public awareness initiatives.

Finally, longitudinal studies assessing the social and environmental outcomes of sustainability messaging, as well as tracking brand communication practices over time, would provide insights into the long-term implications of such strategies and the role of frameworks like the TMED in fostering authentic and verifiable sustainability commitments. This combined trajectory positions the TMED as not only a scholarly contribution but also a practical tool for policymakers, educators, and consumer rights advocates working toward transparency and accountability in sustainability communication.

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APPENDIX

List of Products Used In Research

Categories	Sub-Categories	Name
Health Care	Health Supplements	Bourn Vita
		Complan
		Ensure
		Horlicks
		Pediasure
		Moringa BFgrow3
		Boost
		Ovaltine
		Sustagen
		Serious Mass
	Skin Care	Himalaya Purifying Neem Face Wash
		Derma Shine Tee tree Acne Face Wash
		Vibrant Beauty Lemon Purifying Face wash
		Eveline face wash
		CoNatural Hydrating Aloe Vera Face Wash
		Seven Herbal Beauty Cream
		Soft Touch Massage Cream Herbal
		Fair & Lovely Herbal Care Glowing Fairness Cream
		Esfolio Green Herb Sun Cream
		Hollywood Style Whitening Massage Cream
	Hair care	Lifebouy Herbal Shampoo
		Herbal Essences Dazzling Shine Lime Essences Shampoo
		Head & Shoulders Neem Anti-dandruff Shampoo
		Palmolive Naturals Healthy & Smooth Shampoo, Aloe Vera & Fruit Vitamins
		L'Oreal Paris Botanicals Fresh Care Ginger & Coriander Strengthening Shampoo
		Sunsilk Natural Recharge Fig & Mint Refresh Shampoo
		Mama Organic Onion Shampoo
		Golden Pearl Hello Hair Herbal Shampoo + Conditioner
		Dabur Amla Reetha & Shikakai Shampoo
		Garnier Fructis Pure Clean Purifying Shampoo, Silicone-Free
	Massage oils	Pigeon Natural Botanical Olive Oil, Argan Oil & Chamomile Baby Water Gel
		Palmer's Moisturizing Body Oil
		CoNatural Organic Coconut Oil
		The Body Shop Oils Of Life Intensely Revitalising

Food and Beverages	Energy drinks	Facial Oil,
		Emami 7 Oils in One Non-Sticky Hair Oil
		Nisa Hair Oil
		Dabur Vatika Naturals Shikakai Soft & Silky Enriched Hair Oil
		Wellace Amla Deep Repair Hair Oil
		Palmer's Hair & Scalp Oil With Coconut Oil and Vitamin E
		Johnsons Baby Creamy Oil with Aloe & Vitamin E
		Red Bull The Green Edition Energy Drink
		Nestle Milo Active Go
		Java Monster Irish Crème
	Fruit juices	rip it Energy fuel
		V energy Drink
		Sting energy drink
		Nestle Fruita Vital Peach
		Rockstar Revolt Green Apple Energy Drink
		Schweppes Original Ginger Ale
		Mtn Dew AMP Energy Drink
		Nestle Fruita Vitals Chaunsa
		Slice Mango
		Shezan All Pure Mango
	Ghee and Cooking Oils	Fresher Mango Juice
		Maaza Mango
		Shezan Twist Lychee
		Cappy Pulpy Orange
		Mepro Grewia Berry Juice & Basil Seed
		Vivo Peach
		Rauch White Grape
		Eve Premium Quality VTF Banaspati
		Kisan Banaspati
		Seasons Banaspati
Honey		Soya Supreme Banaspati
		Kashmir Banaspati Gold
		Sufi Sunflower Cooking Oil
		Dalda Fortified Sunflower Cooking Oil
		Mezan Cooking Oil
		Kisan Super Cooking Oil
		Habib Banaspati
		Hamdard Honey
		Qarshi Honey
		Marhaba Honey
		Langnese Pure Bee Honey
		Salman's Pak Honey
		HibaLife Orange Honey
		Young's Bee Hive Natural Honey

	Al Shifa Natural Honey
	The Natural Swat Bee Honey
	Hashmi Honey
Dairy Products	Dairy Pure
	Nestle Yogurt
	Adam's Yoghurt
	Nestle Milk Pak Salted Dairy Butter
	Mumtaz Spreadable Margarine
	Blue Band Margarine Spread
	Kraft Processed Cheddar Cheese
	Whipy Whip Whipping Cream
	Polac Sweetened Condensed Filled Milk
	Young's Maska Breakfast Spread
Grains and Cereals	Nutrilov - Crunchy Cereal Berry Blast
	Fauji Wheat Flakes
	Oat Som Instant Oatmeal Banana & Nuts
	Nestle Cerelac
	Milna Baby Rusk
	Nestle Cerelac Nature's Selection Cereal, Multigrain, Dates & Bananalicious
	Kellogg's Granola Classic Oat Clusters
	Searle Prep-Up Baby Cereal Wheat Milk & Fruits
	Alpen Fruit & Nut Cereal Bars
	Fauji Choco Rings
Herbal Tea	Vital Tea Lemon Green Tea
	Tapal Green Tea lemon Grass
	Tapal Green Tea Jasmine
	Vital Pink Kashmiri Tea
	Lipton Green Tea - Luscious Mixed Berries
	Vital Enveloped Chamomile Tea
	Earth Bar Organic Lemon Grass Tea
	Slim Fast Pure Organic Sliming Herb Tea
	Masood Moringa Organic Tea
	Slimax Sliming Herb Tea Bags
