

Visual Greenwashing and Regulatory Adherence: A Content Analysis of Green Claims in the Indian Media and Policy Suggestions



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Abstract

The research paper carries out an empirical analysis to evaluate the intent and execution of green advertisements in India. This study content analyses green advertisements in the Indian media examining claim characteristics, message dimensions, copy and situational points using NVivo software. The multimodal analysis employs the Carlson matrix and Terra Choice framework, and expanded image-centric research to include audio-video content from the social media platforms. Based on Dual Coding theory, findings demonstrate strong interaction effects among textual claims, strategic capitalization employing green logos and traces of country of origin. Results confirm that image-based green claims, visual greenwashing, and shallow appeals that focus on eco-symbolism are the most prevalent. Cross-platform analysis shows that higher frequency on Earth Day especially on social media handles. The results make important theoretical contributions by applying the Green Halo Effect to emerging markets and showing how claim type and customer perception interact. An emerging nation where economic advancement precedes environmental harm, findings exhibit alarming lacunas in Indian green legislation. The meagre presence of third-party logos, mostly illegitimate, underscores the urgent need for more credible green advertising. The paper acts as a guide to the green advertisers on how to curb scepticism and provides policy recommendations in light of interventions like consumer literacy and carbon labelling. This study is a novel attempt to analyse the impact of 2024 Guidelines for the Prevention and Regulation of Greenwashing Environmental Claims in India; emphasising that regulation is in place, but enforcement and measurable outcomes are still developing.

Keywords- Greenwashing, Content Analysis, Claim specificity, Dual Coding theory, Green Halo Effect

Paper type- Research paper

1. Introduction

The global adoption of environmentally friendly practices by firms, the 'green movement' (Saabar et al., 2011), has been driven by various factors, including governmental authorities' implementing stricter green guidelines and the rising demand for consumer transparency. Advertising is crucial in communicating a pro-green image (Banerjee et al., 1995) and cultivating eco-consciousness among consumers and corporations (Horiuchi et al., 2009). However, the wave has also brought about the evil of 'greenwashing' (Davis, 1995), where corporations manipulate consumers' perceptions by strategically emphasizing specific elements of environmental performance (Terrachoice environmental marketing, 2007). Numerous commercials readily employ phrases such as "green" and "eco-friendly" to establish a favorable perception of their products. While several organizations embrace environmental responsibility, others may merely be capitalizing on the trend of green marketing without substantially altering their operational procedures. The occurrence, called greenwashing, can potentially deceive consumers and weaken the endeavours of environmentally conscientious organizations. In this

perspective, academics are showing a growing interest in the concept of greenwashing. The credibility of business assertions regarding environmental initiatives is facing growing skepticism among consumers (Carlson et al., 1993; Guix et al., 2022; Pfanner, 2008); leading to a surge in consumer complaints lodged with watchdog entities (Coder, 2008).

India, a rapidly growing economy, faces environmental challenges like air pollution, food loss due to climate change, and electronic waste contamination (Smith & Valenzuela, 2002). The digital population is educated and aware, demanding environpreneurship (Jain & Kaur, 2004). It is high time for firms to realize that their claims and credibility are the leading players in the consumer perception game (Furlow, 2010). But the number of firms being called out for greenwashing in India has been soaring (Singh, 2025). Hence, it is imperative to scrutinise the sustainability assertions made by companies and to address greenwashing in emerging economies such as India, which have been overlooked by academics. This research studies green commercials using the Carlson matrix and Terra Choice framework on the same sample;

serving as one of the initial attempts. The study broadened image-centric research, previously confined to print newspapers, to encompass audio-visual content from other interactive digital platforms, such as advertisements on YouTube and Instagram, thereby facilitating a comprehensive multimodal analysis of green advertisements employed by international corporations in the Indian media. The study is conducted on claim features, message dimensions, copy characteristics, and situational factors; especially in respect of executional greenwashing. The study also examined the congruence between the frequency of green advertising and environmental events such as Earth Day, and compared it across various platforms.

There is no statutory ban on greenwashing. Until recently, it was not apparent what the legal nature of a "green claim" was. On October 15, 2024 the Guidelines for the Prevention and Regulation of Greenwashing or Misleading Environmental Claims were finalised by the Government of India, providing a necessary legislative framework directing companies to boost truthfulness of their environmental statements; empowering consumers to make better selections on what to buy, distinguishing between substantive and misleading environmental claims and shielding them from possible misinformation (Singh, 2025). The annual report assessed advertisements for false and exaggerated claims stated a rise a number by 34 from the preceding year and highlighted that 100% of these advertisements required modification as per the CCPA guidelines for prevention of greenwashing (ASCI, 2025). Green claims Several companies still used uncorroborated terms like eco-friendly or biodegradable without any element substantiating it as CCPA enforcement is complaint only in nature and the amount of fine in question may not be discouraging enough for big corporations.

India is just not another emerging economy, but also a market in its regulatory transition. The introduction of the 2024 CCPA guidelines reforms the voluntary nature of Indian greenwashing law to more regulated legal framework. Hence, it is the need of the hour to do a longitudinal study evaluating its impact on green advertising framework in India; comparing ad characteristics pre and post the introduction of these guidelines.

The article's following sections are organized: following section discusses green advertising literature and methods, including sampling, coding, and analysis. Research findings and their effects on interaction are then discussed. The study finishes with a summary of its primary results and concluding observations.

2. Review of Literature

Green advertising encompasses all assertions integrating ecological, nature-friendly, pro-environmental, or sustainable principles into their message framework (Hartmann & Apaolaza-Ibáñez, 2009). Green appeals are designed to meet the needs of stakeholders who prioritize environmental concerns (Zinkhan & Carlson, 1995). According to (Banerjee et al., 1995), these individuals can be classified into three primary categories: those who examine the correlation between a product or service and its ecological surroundings, those who promote a mindful, environmentally friendly way of life, and those who exhibit a perception of corporate responsibility towards the environment (Menon & Menon, 1997). The 1960s saw the emergence of environmental marketing but coincided with increased scrutiny from the scientific community, environmental authorities, and green consumers regarding the anti-ecological policies of numerous companies (Easterling et al., 1996). Green advertisements can be categorized into four types: ambiguous, omitting significant information to assess its integrity; false or misleading information; and specific or substantive environmental statements. Shallow and moderate claims are considered posturing, characterized by imprecision and lack of essential information. Existing literature states that claim specificity is an important indicator of greenwashing (Lyon & Maxwell, 2011). Previous content analysis studies imply that unambiguous and measurable ecological benefits make environmental claims more acceptable (Banerjee et al., 1995). Hence, the subsequent research inquiry:

RQ1. To what extent do superficial and ambiguous claims in Indian green advertisements occur more frequently than moderate and substantive claims?

According to advertising literature, combining different designs—including logo text, picture text, or all—is far more effective than depending just on one style. (Hartmann & Apaolaza-Ibáñez, 2009) investigated how environmental awareness, emotional response, and brand perception changed when text-only ads combined with text with green images. According to (Sparks et al., 2013), the most appealing combination for encouraging good consumer behavior is a logo or award mark. *Dual coding theory* holds that people have two cognitive subsystems for handling spoken and nonverbal information (Kyu Kim et al., 2021). While verbal signals (text) activate core routes, resulting in systematic and rigorous cognitive processing, non-verbal cues (pictures) are processed via peripheral pathways and require minimum cognitive effort. Dual coding theory (Jensen et al., 2015) when applied in context of green advertising supports the hypothesis that commercials combining text and images can be more successful in delivering messages to consumers and can together improve

the efficacy of the advertisement (Kyu Kim et al., 2021). Hence, we extend the existing image-centric research to include audio-video content.

A typology comprising five categories for green advertising claims was created by (Carlson et al., 1993). Firstly, product claims (a product's environmentally friendly features); secondly, process claims (the company's production techniques or technologies which are sustainable and third, image-based claims (endorsement of an environmental initiative by a corporation) and followed by fact-based assertions (statements of environmental facts) and lastly, combination (a combination of many category kinds); specially integrated in this study as it was missing in previous research. Content analysis studies reveal that commercials with images often lack credibility due to unclear claims, while product and process claims are considered substantive due to their precise and concrete information (Carlson et al., 1996). This raises the subsequent query:

RQ2a: Do fact-based and process claims exceed the tally of the product-based and image-based claims,

and do image related claims tend to be more deceptive, aligning with Dual Coding Theory?

RQ2b: To what extent does the Claim Orientation (Product vs. Image) predict the likelihood of committing a Sin of Greenwashing?

The impact of different types of claims on consumer scepticism varies based on their substantiveness (Musgrove et al., 2018). A substantive green claim can create a "green halo" effect (Musgrove et al., 2018) even for a less credible brand, according to "halo effect theory" (Green & Peloza, 2014). Green ads, strong or weak, will be accepted by green consumers (Tucker et al., 2012). Specific green claims reduce green scepticism and boost trust (Ganz & Grimes, 2018). *Peloza Halo Effect Theory* states that customers associate one positive attribute of a product, corporation, or brand to its other attributes, regardless of relatability and is here adopted in context of green advertising.

RQ3: To investigate existence of such executional cues in Indian advertising by analysing both visual and verbal cues.

Table 1: Cross-nation Legislations from Literature Review

Country	Status	Green Policy/Code/Regulation
United Kingdom	Developed	<ul style="list-style-type: none"> • Competition and Markets Authority (CMA); regulatory authority • Green Claims Code: voluntary and self-regulation; ICC Framework for Environmental Marketing Communications (ICC Framework). • EU legislation – the Unfair Commercial Practices Directive (UCPD) • CAP CODE AND BCAP CODE • Guidelines issued by the Department for Environment, Food and Rural Affairs • First-ever legally binding target emission
United States	Developed	Federal Trade Commission guidelines prohibit environmental claims deception but have limited enforcement
Australia	Developed	Australian Consumer Law
Canada	Developed	Consumer Packaging and Labelling Act: published guidelines regarding the direct application of these laws to greenwashing and unsubstantiated environmental claims
France	Developed	<ul style="list-style-type: none"> • French Practical Guide, 2012 • Rule to exhibit vehicle's carbon emission
Denmark	Developed	Danish Marketing Practices Act: Consumer Ombudsman on environmental and ethical claims
Norway	Developed	Manufacturers are mandated to display their vehicles' carbon emissions in their promotional activities.
China	Developing	It indirectly regulated Advertising Law, the Law of Protection of Consumers' Rights and Interests.
Malaysia	Developing	Malaysian Code of Advertising Practice: self-regulatory body: Advertising Standards Authority Malaysia

India	Developing	<ul style="list-style-type: none"> • No direct regulation • Voluntary self-regulatory body – Advertising Standards Council of India (ASCI) guidelines prohibits false environmental claims in ads. • BEE energy labelling mandated • Bureau of Indian Standards (BIS), Food Safety and Standards Act, 2006, National Green Tribunal Act, the Green Rating Project (GRP), and the Ministry of Environment, Forest and Climate Change ‘Green Good Deeds Movement’; certifies genuinely eco-friendly products. • SEBI’s ESG Disclosures – Listed companies must report sustainability efforts. • Consumer Protection Act, 2019 – Penalizes misleading ads. • 2024 Guidelines for the Prevention and Regulation of Greenwashing Environmental Claims in India: <ul style="list-style-type: none"> • The proposed standards of the CCPA require enterprises to provide evidence for claims like "carbon-neutral" or "recyclable" through the use of QR codes or hyperlinks. They prohibit selective data emphasis and require authentic certifications, including BIS or Fair Trade.
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Source: Author’s own creation

Green concept is townified and has a long way to reach grassroot levels of India. Literature exhibits adoption of green codes like ISO14001 by several Indian companies to improve their environmental responsibility amongst the urban consumers (Sandhu et al., 2012). Green advertising claims and their effects on Indian customers, who are reluctant to pay green premium (Manaktola & Jauhari, 2007), have received little academic investigation (Prasad et al., 2017; Zinkhan & Carlson, 1995). (Carlson et al., 1993) and (Polonsky et al., 1997) are among the first to examine green claims globally and found significant differences in green business tactics between nations. The origin nation is vital to sustainable claims (Manrai et al., 1998). Since credibility claims cannot always be assessed (Miller, 1999), customers grow sceptical of green claims, hampering sustainable marketing. Low-effort assertions are more acceptable to consumers (Polonsky et al., 1997). Consumers react to ad believability (Tucker et al., 2012). Functional or emotional green ads featuring natural imagery and virtual nature experiences promote a favourable green company image (Hartmann & Apaolaza-Ibáñez, 2009; Matthes & Wonneberger, 2014; Musgrove et al., 2018; Saeed Khan et al., 2021). Several countries have imposed restrictions on global environmental campaigns (Saabar et al., 2011), however India has no clear greenwashing laws. India’s Advertising Standards Council (ASCI) handles cases and confirms its self-regulation code (Table 1). Green claim specificity and greenwashing are regulated separately in developed nations but developing-world advertising regulation has received minimal academic attention (Trends in FDA’s Oversight of Direct-to-Consumer Advertising, 2008). Marketers are taking advantage of the fact that most Indian consumers are more gullible than their Western counterparts and unaware of green

marketing claims (Verma, 2009). As a result, the following research question investigates this issue:

RQ4: Do green ads exhibiting indicators of greenwashing significantly exceed ads without such indicators in the Indian media landscape?

The proposed standards of the CCPA require enterprises to provide evidence for claims like "carbon-neutral" or "recyclable" through the use of QR codes or hyperlinks. They prohibit selective data emphasis and require authentic certifications, including BIS or Fair Trade. There is transition from voluntary (ASCI) to mandatory (CCPA 2024) guidelines. Hence, the subsequent research inquiry:

RQ5: Has the introduction of the 2024 Guidelines for the Prevention and Regulation of Greenwashing Environmental Claims in India affected the prevalence and nature of green advertising claims?

Businesses can use tools like eco-seals (Bickart & Ruth, 2012) and third-party certifications (Parguel et al., 2011) to increase the legitimacy of the source in green ads and prevent customer uncertainty about greenwashing by fostering consumer trust (Chen & Chang, 2012). Eco mark, GRIHA, and LEED certifications (Arya & Sharma, 2022) were futile, attributed to a lack of political determination, unclear communication among regulatory organizations, and little consumer knowledge (Pradeep et al., 2007). We intend to study the following research topic:

RQ6: Is there a higher prevalence of advertisements lacking third-party certifications than those including them?

3. Materials and Methods

3.1 Analysis Framework

(Carlson et al., 1993) devised a two-dimensional classification system that simplifies examining deceptive advertisements. It categorizes them into Vague/Ambiguous (expansive statements with distinct significance), Omission (lacking crucial

information), and False/Outright Lie (erroneous or fabricated). Green claims can be categorized into four types: product-oriented, process-oriented, image-oriented, and environmental fact. Product orientation focuses on environmentally friendly products; process orientation focuses on technological advancements; image orientation links organizations to environmental causes; and ecological facts pertain to factual ecological conditions.

Terrachoice "six sins of greenwashing" framework utilized in previous research studies (Baum, 2012; Bergeson, 2008) encompasses the Sin of the Hidden Trade-Off, the Sin of No Proof, the Sin of Vagueness, the Sin of Irrelevance, the Sin of Fibbing, and the Sin of the Lesser of Two Evils incorporated (Terrachoice environmental marketing, 2007).

3.2 Data Collection and Sample

The study analysed 224 green advertisements from the Indian media across print and digital platforms. A two-dimensional classification paradigm was employed to perform a content analysis on green advertising as done previously in other developed nations (Baum, 2012) as well as in China (Dai et al., 2014). This study utilized quantitative as well as qualitative content analysis to identify specific attributes in green advertising (Klaus Krippendorff, 2018) and investigated deceitful characteristics. It examined global advertising with green claims utilising relevant literature and conceptual replication (Carlson et al., 1993). The exploratory investigation identified green commercials using keywords like "environmental," "ecological," "sustainable," "natural," "recycling," and "green," along with green certifications like LEED and Energy Star (Leonidou et al., 2011). The universe comprised all Indian consumer-generating commercials. Print advertisements from Time of India Daily (Basuroy, 2021) and digital platforms like MetaLib and VidTao were scanned from April 2022 to April 2025; the month was selected to especially cover the media advertisements on Earth Day. This time frame help comparing the impact of introducing 2024 Guidelines for the Prevention and Regulation of Greenwashing Environmental Claims in India. Eliminating duplicates and any political or regional language concluded 224 environmental ads (10.78% of the analytic corpus). Since educated Indians prefer English newspapers to vernacular ones, the study examined whether they would respond to environmentally friendly marketing (Jain & Kaur, 2004). All print and video ads were watched. Every written or visual claim was examined. It was analysed textually using R software and visually using NVivo.

A structured content analysis was employed to code advertisements using NVivo 14. Categories included:

- Advertiser profile: country of origin, organization type, and product sector.
- Advertisement objectives: intent, target issues, and appeal types.
- Claim characteristics: Seven Sins of Greenwashing (Terrachoice environmental marketing, 2007), type of claim (search, experience, credence), claim basis (text, image, combination), claim validity, specificity, and degree of environmental focus.
- Executional elements: green logos and marks, color schemes, presenters

An advanced coding system ensured that each advertisement's advertiser profile, goal, claim attributes, and message dimensions were consistent. A manual was produced to outline and present protocol architecture and elements to improve comprehensiveness. For a pilot test, varied coders like the average consumer coded 10% of the sample to confirm categories and explanations. Coding protocols adapted from prior studies (Carlson et al., 1993; Saabar et al., 2011). A structured protocol gave 'alternative' answers to unresolved issues. The interjudge reliability coefficients ($I_j = 0-1.0.70$) of both typologies corroborate our categorisation methods (Perreault & Leigh, 1989). Discussion resolved conflicts. Final codebook (Appendix A Table 2) data was statistically examined for nominal nature using total percentage frequencies, matrix frequency analysis, and chi-square testing to assess dimension interaction effects (Fernando et al., 2014); followed by a qualitative analysis of the aim of green claims (Kumar, 2017).

4. Findings

Frequency analysis shows a minute fall (36.89%) in the occurrence of outright lies in the green advertisement claims especially in the print media. The advertisements post the introduction of these guidelines exhibit a very high frequency of QR codes or website hyperlinks answering RQ5 giving the consumers access to more information about the green claims made. The rationale behind was the introduction of the proposed standards of the CCPA which require enterprises to provide evidence for claims like "carbon-neutral" or "recyclable" through the use of QR codes or hyperlinks. However, the social media handles of big companies still used uncorroborated terms and green color scheme without much substance which does not adhere to the guidelines introduced. This highlights the need for changing the nature of the regulation from a voluntary guided arrangement to a more mandatory framework.

Table 2: Coding Guidebook with Measurement Items and Frequency Analysis

Node	Description/ Dominant appeal used	Files	Frequency
Advertiser Profile			
Country of Origin			
Belgium		3	1.339285714
Canada		2	0.8928571429
China		3	1.339285714
Czech Republic		3	1.339285714
England		1	0.4464285714
France	Mandatory display of carbon emissions for vehicles in promotional material	7	3.125
Germany	Notable foreign country influencing green ads	12	5.357142857
India	QR codes/URLs for claim substantiation; Dominant origin for green ads	147	65.625
Italy		4	1.785714286
Japan		9	4.017857143
Netherlands		2	0.8928571429
South Korea		5	2.232142857
Sweden		5	2.232142857
Taiwan		1	0.4464285714
United Kingdom		6	2.678571429
United States of America	limited enforcement of Green Guides in Indian ads	14	6.25
Organization Type			
Conglomerate		19	8.482142857
Cooperative		14	6.25
For Profit Organization or Company	Majority of ads driven by profit-oriented firms	151	67.41071429
Governmental		6	2.678571429
Joint Venture		7	3.125
Manufacturer	Product-centric advertisers	27	12.05357143
Sector of Product Advertised			
Automotive	Energy Conservation; Lesser of Two Evils.	43	19.19642857
Electronics	Energy Efficiency/Power Saving appeal	31	13.83928571
Energy		8	3.571428571
Fast Moving Consumer Durables	Ayurvedic, Herbal, or Natural issues.	16	7.142857143
Fast Moving Consumer Goods	Leading sector for green marketing	61	27.23214286
Food and Beverages		12	5.357142857
Other		11	4.910714286
Personal care and Healthcare	Wellness and Personal Health appeals	28	12.5
Real Estate	Eco-friendly lifestyle appeals	10	4.464285714
Tourism		4	1.785714286

Name	Description	Files	Frequency
Aim of Advertisement			
Advertisement Intent			
Enlisting Consumer Support for a Cause		32	14.28571429
Green Image		103	45.98214286
Influence Consumer Behaviour		72	32.14285714
Product or Service Green Promotion		17	7.589285714
Advertisement Target			
Animal Preservation		3	1.339285714
Energy Conservation		61	27.23214286
Other		18	8.035714286
Personal Health Preservation		84	37.5
Planet Preservation		58	25.89285714
Advertising Issue			
Animal		4	1.785714286
Ayurvedic, Herbal, Natural or Nontoxic		61	27.23214286
Energy Conservation		54	24.10714286
Land		8	3.571428571
No Specific Issue		40	17.85714286
Planet		49	21.875
Veganism		3	1.339285714
Water		5	2.232142857
Name	Description	Files	Frequency
Claim Characteristics			
Seven Sins of Green Washing	Terra Choice		
No sin		82	36.60714286
Sin of Hidden Trade-off	A narrow set of green attributes of the product is emphasized without providing much about its other environmentally hazardous characteristics	11	4.910714286
Sin of Irrelevance	Environmental claims that may be true but unimportant, unhelpful, or already mandated attribute under any law that has to be adhered to	4	1.785714286
Sin of Lesser of Two Evils	A green claim that highlights an attribute of a product overlooking the bigger picture of its environmental reality, for example, organic cigarettes or a fuel-efficient SUV	29	12.94642857
Sin of No Proof	The claim that has not been supported or substantiated with any supplementary information or third-party certification	67	29.91071429
Sin of Vagueness	Too poorly or broadly defined without elaboration, leaving the reader to misunderstand its true essence	31	13.83928571

Type of Claim (Verifiability)			
Credence	Green claim attributes that cannot quickly be evaluated even after the actual purchase or use of the product	103	46.07142857
Experience	Green claim attributes that can be evaluated after the actual purchase or use of the product	79	35.17857143
Search	Green claim attributes that can quickly be evaluated before the actual purchase	42	18.75
Type of Claim Basis			
Combination Text as well as image		97	43.30357143
Image-based claim		67	29.91071429
Text-based claim		60	26.78571429
Name	Description	Files	Frequency
Copy Characteristics of Advertisements			
Green Position			
Headline or Subheading		98	43.75
Product Name		19	8.482142857
Visual		107	47.76785714
Level of Green Appeals			
Environmental Advocacy	Claim promotes an eco-friendly idea or supports any green activity like a green place to stay or eco-friendly residence	44	19.64285714
Green Image	Emphasis on building a green corporate image rather than just the product, for instance, the logo with green petals, sun rays, or green color	47	20.98214286
Green Product or Process Attribute	Green attributes of a product or its eco-friendly process, like green landscape theme parks, safari	55	24.55357143
Nature as a Backdrop	Attempt to sell product or service by associating it with the natural or cultural element of the environment employing greenery, blue sky, trees, green patches	78	34.82142857
Type of Appeal			
Comparative		6	2.678571429
Corporate Image Appeal		45	20.08928571
Eco Ideas or Organic		55	24.55357143
Emotional			
Adventure related		13	5.803571429
Anthropomorphism		4	1.785714286
Celebrity Endorsements		12	5.357142857
Women Objectification		3	1.339285714
Rational			
Coupons		9	4.017857143

Health		24	10.71428571
Lifestyle or Comfort		17	7.589285714
Power supply or Energy Saving		24	10.71428571
Security and safety	CCTVs, security systems	4	1.785714286
Testimonial or Expert say		4	1.785714286
Zeitgeist	Appeals signaling the mood of the current times using just pro-planet stances	4	1.785714286
Name	Description	Files	Frequency
Message Aspect of Claims			
Claim Emphasis			
Strong	Claims highlighting green benefits concerning environmentally related issues	119	53.125
Weak	Signally traditional benefit attributes with environmental friendliness as a minor supplement	105	46.875
Claim Specificity			
Specific	Claims with a clear meaning and supplementary details or information	123	54.91071429
Vague	Claims with too broad a meaning to indicate a clear, distinctive meaning	101	45.08928571
Claim Validity			
Acceptable	Making specific green claims in a clear, elaborate, self-explanatory and justifiable manner	129	57.58928571
Omission	Excluding vital information required to evaluate its truthfulness or reasonableness	42	18.75
Combination of vague or omission		53	23.66071429
Degree of Ad Greenness			
	The extent of environmental focus in the advertisement, as computed by (Banerjee et al., 1995) and adopted by (Sabre, 2014) as a means of indicating the specificity (Carlson et al., 1993)		
Deep	Detailed description of attributes of product or process that makes it environmentally friendly or responsible	78	34.82142857
Moderate	A claim does not necessarily associate the green activity with the product attribute but mentions specifics of the environmental issue like recycling	90	40.17857143
Shallow	Vague claims in advertisements like just use of phrases like biodegradable, eco-friendly	56	25
Types of Environmental Advertisement Claims			
Combination	Multifaceted with more than one product-oriented, process, image-oriented claim, or environmental fact	5	2.232142857
Environmental Fact	The claim that has factual, true statements regarding nature or its condition	4	1.785714286
Image Orientation	Claim establishes a link between the organization and specific environmental	103	45.98214286

	issue or green activity based on public support		
Process Orientation	Procuring, production or disposal, or any other internal activity is environmentally friendly	4	1.785714286
Product Orientation	Claim emphasizes the green attribute of the product like the product is biodegradable	108	48.21428571
Name	Description	Files	Frequency
Situation Points			
Advertising Presenter			
Celebrities or Influencers		36	16.07142857
Endangered species		8	3.571428571
Ordinary people or human characters	Like teacher, doctor, farmer	66	29.46428571
Presenter Absent		95	42.41071429
Pro-Planet		19	8.482142857
Certification in Green Advertisements			
Awards		15	6.696428571
Combination	Legally binding Green Logo, Third-party Eco Label QR Code	28	12.5
Legally Binding Logos	Like BEE star rating, fascia vegetarianism, vegan logos	38	16.96428571
No eco seal, green logo, or certification		72	32.14285714
QR Code		30	13.39285714
Third-party logos Proper Eco seals, or green certification		8	3.571428571
Voluntary Titles of Authenticity or Green Logos		33	14.73214286
Company Identification Mark			
Environmental Slogan		46	20.53571429
Environmental Website		37	16.51785714
Green Awards		11	4.910714286
Green Logotype		64	28.57142857
No Company Environmental Identification		66	29.46428571
Environmentally Oriented Colors			
Beige		6	2.678571429
Blue		27	12.05357143
Combination of green, blue, beige		120	53.57142857
Green		47	20.98214286
Other color		15	6.696428571
White		9	4.017857143

Illustration Settings and Executional Elements			
Abstract design		13	5.803571429
Imaginary environment or Animation	Idealising a green world	35	15.625
Natural Environment	Association of product with pristine nature	62	27.67857143
No Setting		18	8.035714286
Green-feel Looks	Subliminal suggestion of eco-friendliness	53	23.66071429
Still Life	Focus on the product in a sterile green frame	43	19.19642857
Total number of Advertisements		224	

Note: Coding variables used in the study were adapted from (Leonidou et al., 2011).

Source: Author's own creation

4.1 Advertiser's Profile

- Country of Origin

Indian enterprises made up the majority of green advertisers (65.62%) followed by multinational companies from the US (6.25%) and Germany (5.35%). The focus on the country of origin gives evidence for the Green Halo Effect as when consumers identify a product's origin as a reputed country, they form positive connotations towards the green products (Leonidou et al., 2011) and negative when products are associated with countries known for their substandard manufacturing.

- Organization Type

For-profit Organizations funded a significant majority of 151 (67.41%) advertisements, followed by manufacturing businesses sponsored (12.05%), conglomerates (8.48%) and 2.67% were presented as government green campaigns; which is in line with studies that shows companies typically use environmental claims to improve their image. (Kaur et al., 2022)

- Sector of Product Advertised

FMCG has the highest frequency of green ads (27.23%). Due to the rise of electric vehicles, 19.19% of green ads are from the automotive industry and 13.83 % from electronics, followed by FMCDs (7.14%), Food and Beverages (5.35%), Real Estate (4.46.5), Energy (3.57%), and Tourism (1.77%).

4.2 Copy Aspects of Advertisement

- Green Position

Most advertising headlines (43.75%) were declarative, while some pronounced the product name as a green attribute (8.48%) like Amul Organic. The most common was executional greenwashing without any substantiation (47.76%), which used visual green components to lure consumers without proof, in line with the existing literature (Parguel et al., 2011). This supports the dual coding theory as firms are pivoting executional greenwashing as the 2024 guidelines strictly regulates text over green imagery.

- Level of Green Appeals

The list was topped by companies that advertised using nature as a backdrop (34.82%). This is consistent to findings of (Carlson et al., 1996), who suggested weaker regulations as the underlying cause; clearly indicating lacunas in the Indian green law.

- Type of Appeal

The copy attributes showed that 34.82% of ads used rational appeals focusing on health or energy-saving benefits and 14.28% used emotional appeals incorporating themes including adventure, celebrity endorsements, anthropomorphism, and women-centricity. About 24.55% of ads used a wide appeal centred on an Eco Idea while others used testimonials or capitalized zeitgeist themes like veganism (1.78%); pointing out that advertisers use both cognitive and emotional channels to trigger green consumerism.

4.3 Claim Characteristics (Terrachoice environmental marketing, 2007)

- Seven Sins of Greenwashing

The sin of no proof accounted for about 30%, followed by the sin of vagueness (13.83%), the sin of lesser of two evils (13%), the sin of hidden trade-off (5%), substantiating the existence of executional greenwashing similar to prior studies. (Parguel et al., 2011; Saabar et al., 2011)

- Type of Claim Verifiability and Claim Basis

Approximately 46% of the advertisements included credence statements, 35.17% relied on experience claims, and 18.75% relied on search claims. About 30% of the advertisements used nature evoking image-based claims, 26.78% commercials used textual green claims and 43.3% used a hybrid strategy, which is consistent with previous research (Sabre, 2014).

4.4 Message Dimensions of Advertisement

- Claim Emphasis and Degree of Ad Greenness

About half (53.12%) advertisements consisted strongly emphasized claims as suggested by prior studies (Manrai et al., 1998) and the remaining had a

weak emphasis with a lack of substantiation, indicating that the emphasis of such environmental claims lies on a green spectrum rather than a binary classification. Deep (34.82%) green advertisements have a lower prevalence than moderate (40.17%) and shallow (25%), similar to earlier investigations (Fernando et al., 2014).

• Claim Specificity and Claim Validity

Percentage of specific categories (54.91%) is more or less the same as that of vague advertisements (45.08%) answering RQ1. Most false claims lack relevant details (18.75%) or are ambiguous (23.60%) highlighting greenwashing, answering RQ4.

• Types of Environmental Advertisement Claims

About half (48.21%) of the advertising contained product-oriented assertions followed by claims that painted a green image (45.98%), in contrast to the meagre use of environmental facts (1.78 %).

4.5 Situation Points and Execution Framework

• Advertising Presenter

Presenters included ordinary people (29.46%); celebrities or influencers (16.07%); cows, buffaloes, and endangered tigers and bears (3.57%). Due to the rise of green customers and ecopreneurs, 'Pro Planet' or 'Mother Earth' (8.48%) emerged as presenters. This supports dual coding theory by focusing on visual-semantic congruence to improve consumer perception.

• Certifications in green advertisements and Company Identification Mark

The study found that Indigenous 'India Organic' and 'Exnora Eco Star Rating'; global certifications like USDA Organic Certification, ECOCERT and LEED® accreditation for green buildings; voluntary certifications like INDOCERT and Jaivik Bharat, LG Recyclable, Green Leaf, S-CNG and CPCB IV+ were employed (14.73%) showing a discouragingly low presence. The green advertisements utilized a combination element like a Legally binding Green Logo, third-party Eco Label, and QR Code (13.39%) to communicate their sustainable efforts, and this number was tremendously increased post the introduction of 2024 greenwashing guidelines, highlighting some success in response to RQ5. The companies highly employed environmental slogans (20.53%), green logotypes (28.57%), environmental

websites (16.5%), and awards (6.69%) but a big sect lacked any such green identification mark answering RQ6.

• Environmentally Oriented Colors

The color most frequently employed to convey sustainability in advertisements was green (20.98%) like (Dai et al., 2014), followed by blue (12.05%), white (4.01%), beige (2.67%), or a combination of these (53.57%); results provide evidence for color theory and suggested a link between advertisement color and consumer cognition (Wenting et al., 2022).

• Illustration Settings and Executional Elements

The most prevalent illustration setting used in the advertising was images of the natural environment (27.67%), followed by green feel Looks (23.66%), still life (19.19%), imaginary environment settings or animation (15.62%), and abstract design (5.80%).

Interrelationships between dimensions

There is evidence to demonstrate that the authenticity of green advertisements is associated with the claim category (Fernando et al., 2014). A chi-square test of independence was performed to examine the association between the variables, specifically focusing on RQ2. To conduct a comparative analysis with the research conducted by (Carlson et al., 1993), we employed a cross-tabulation approach to align our findings with theirs. In contrast to (Carlson et al., 1993), the majority of claims were focused on the product (49.09%, n=108), image-oriented claims being the second most common (46.8%, n=103), followed by process-oriented (2.27%, n=5) and environmental fact claims were the least frequent (1.81%, n=4), $\chi^2 (3,220) = 185.70, p < .001$; consistent with the findings reported by (Segev et al., 2016). Image based claims were specially coincided with the sin of no proof, emphasising on executional greenwashing. A higher proportion of claims were categorized as misleading (vague/ambiguous: 21.36%, n=47; omission: 32.72%, n=72) compared to acceptable claims (45.9%, n=101) ($\chi^2 (1,220) = 1.47, p < .001$); these are in contradiction to other research experiments (Segev et al., 2016) (Refer to Table 3). Strength of Association (Cramer's V): $\chi^2 (3, N = 220) = 9.91, p < .05, c = 0.21$ indicates a moderate association. This proves that a brand's choice to use "Image" vs "Product" claims is a statistically significant predictor of whether they will mislead the consumer.

Table 3: Interconnectedness among variables using Chi-square testing.

For comparative analysis, the category of Combination was not taken into consideration.

Misleading/Deceptive	Product	Process	Image	Environmental Fact	Combination	Total
Vague/Deceptive	25	1	20	1	1	48
Omission	45	8	25	1	0	79
Misleading	70	2	45	117	1	235
Acceptable	38	3	58	2	3	104

<i>Total</i>	108	5	103	4	4	224
<i>Misleading/Deceptive</i>	Product	Process	Image	Environmental Fact		Total
<i>Vague/Deceptive</i>	25	1	20	1		47
<i>Omission</i>	45	1	25	1		72
<i>Misleading</i>	70	2	45	2		119
<i>Acceptable</i>	38	3	58	2		101
<i>Total</i>	108	5	103	4		220

Source: Author's own creation

Table 4: Analysis of Appeal Type and Greenwashing Sin Matrix

<i>Misleading/Deceptive</i>	<i>Product</i>	<i>Process</i>	<i>Image</i>	<i>Environmental Fact</i>	<i>Combination</i>	<i>Total</i>
<i>Sin of the Hidden Trade-off</i>	3	1	6	1	0	11
<i>Sin of No Proof</i>	25	1	39	1	1	67
<i>Sin of Vagueness</i>	12	1	17	1	0	31
<i>Sin of Irrelevance</i>	1	0	2	0	1	4
<i>Sin of Lesser of Two Evils</i>	13	1	15	0	0	29
<i>No Sin</i>	54	1	24	1	2	82
<i>Total</i>	108	5	103	4	4	224

For analysis, the category of Sin of Fibbing was not considered as no claim can be certainly assigned to this category.

Source: Author's own creation

The study found that claims related to products (31.81%, n=70) and images (20.54%, n=45) were more frequently identified as misleading to the claims associated with processes and those providing environmental facts (0.9%, n=2 each) ($\chi^2(1, 119) = 103.53, p < .001$). Contrary to the findings of (Carlson et al., 1993) and (Segev et al., 2016), the present study observed a higher proportion of statements classified as omitting information (32.72%, n=72) in line with (Apostolopoulos et al., 2025); compared to those labeled as vague/ambiguous (21.36%, n=47) ($\chi^2(1, 119) = 5.25, p < .001$).

In contrast to the initial study, most approved claims were categorized as image-oriented (26.36%, n=58) and product-oriented (17.27%, n=38), rather than process-oriented (1.36%, n=3) and containing environmental facts (0.9%, n=2) ($\chi^2(1, 101) = 81.94, p > .001$; evidence for executional greenwashing (RQ3). In comparison to the other three types of environmental claims, environmental facts were shown to have the lowest percentage of misleading/deceptive claims (0.9%, n=2).

Analysis of Appeal Type and Greenwashing Sin Matrix: Qualitative Analysis

Chi-square tests were conducted. In general, deceptive advertising emphasizes the advantages of the product more than the environmental facts (n=108) ($\chi^2=185.7, df=3, p<0.0001$). Claims that place greater emphasis on the environmentally friendly characteristics of items was found to be more prone to the sin of no proof (n=25) compared to the sin of irrelevance (n=1) ($\chi^2=22.15, df=1, p<0.0001$). When the orientation of claims is not considered, the most prevalent sin is the lack of evidence (n=67), followed by the sin of vagueness (n=31) and the sin of irrelevance (n=4) ($\chi^2=128.26, df=5, p<0.0001$) like (Dai et al., 2014). The sin of no proof was predominantly image-based (n=39) compared to product-oriented (n=25). Process-based and environmental facts were equally prevalent ($\chi^2=64.18, df=3, p<0.0001$). Similarly, vague claims were more focused on images (n=17) rather than products (n=12), processes (n=1), and the environment (n=1) ($\chi^2=25.12, df=3, p<0.0001$) (Refer to Table 4); findings that contradict the results reported by (Dai et al., 2014) in their research study as then the majority of claims were product-oriented rather than image-based.

holds upright in case of green advertising in the Indian media.

5. Concluding observations

This study provides a detailed examination of green advertising in India, analysing underlying themes, executional strategies, and greenwashing practices across print and digital advertisements. The paper reveals a 50% growth in frequency of sustainable advertising over the past two decades, clearly indicating that 'green' is the new fad. This research studies green commercials using the Carlson matrix and Terra Choice framework on the same sample; serving as one of the initial attempts. The study broadened image-centric research, previously confined to print newspapers, to encompass audio-visual content from other interactive digital platforms, such as advertisements on YouTube and Instagram, thereby facilitating a comprehensive multimodal analysis of green advertisements in the Indian media. The study is conducted on claim features, message dimensions, copy characteristics, and visual factors; especially in respect of executional greenwashing.

Indian customers are green enthusiasts but they lack green awareness which restricts green consumerism (Das, 2022). Indian green marketing research is limited and townified (Yadav et al., 2024). Most developed nations strictly prohibit use of uncorroborated phrases like 'organic', 'green', and 'eco-friendly' which the Indian law only guides not to incorporate (Mondal et al., 2023). Research on advertising regulation has disregarded emerging nations and focused on western ones (GAO, 2008). We also support past research linking greenwashing to regulatory lacunas (Baum, 2012; Polonsky et al., 1997) and recommends improving advertising policies to meet global standards and protect consumers (Baum, 2012; Kangun et al., 1991). Findings suggests that green advertisements intend to communicate a corporate environmental image and garner consumer support towards green claims by employing emotional appeals of green-feel aesthetics. The results show that Indian green advertising relies on shallow green appeals and image-based claims being more common than process-based or environmental fact-based claims as suggested by previous research (Rahman et al., 2025). About half the sample comprised of green visual cues and green colour palette, alongside textual sustainable claims; reflecting the dual coding theory and provides evidence for executional greenwashing as an alarming issue in the Indian media. About 46% of claims belong to the credence category, which clearly highlighted that Indian consumers still suffer the difficulty to assess the credibility of any green product. Consumers often depend on cues like eco-seals, logos, and mentions of the country of origin. This supports the Green Halo

Effect theory which show that regional cues and technological sophistication of developed nations impact the credibility of green advertisements, even if there are no verified sustainability claims. In India, sustainability emerges as a marketing advantage and firms offer inflated, ambiguous, or deceptive environmental assertions in their advertisements. The matrix technique demonstrates that most advertising emphasises green identity but suffer the 'sin of no proof'. Unregulated environmental law has flooded the Indian media with large number of green advertisements which is then viewed upon as information pollution by the consumers as is the case with other emerging economies like China and Malaysia (Dai et al., 2014). Indian advertising is built on shallow green appeals emphasising nature's beauty and symbolism like the case of other emerging nations (Leonidou et al., 2011). In reality, the product features lacked significantly from green images portrayed in advertisements; strongly revolving around the dual coding theory highlighting advertisers wanted to harness natural aesthetics using green visual cues. These deceptive strategies take advantage of environmentally aware consumers without providing genuine ecological advantages. India lacks rigorous legislation to penalise misleading green claims, however the Consumer Protection Act, 2019, and Bureau of Indian Standards (BIS) guidelines offer some monitoring.

Analysing advertisements prior to and subsequent to the implementation of CCPA guidelines elucidates the progression of green advertising and the role of governmental intervention fostering green transformation in the context of emerging economies like India. The CCPA regulations superficially improved the trends in green claims but 30% of the advertisements still committed the sin of no proof which is in line with the existing literature (Anklesaria et al., 2025). The advertisements released in Indian media following the release of the 2024 Guidelines for the Prevention and Regulation of Greenwashing Environmental Claims demonstrated a significant prevalence of QR codes, product websites or hyperlinks for further information. Despite their minimal presence, green logos were still found to be illegitimate originating from unverifiable environmental organisations rather than legal agencies. These results are consistent with research conducted in other emerging economies (Dai et al., 2014; Mondal et al., 2023) and highlight the necessity for a transition from voluntary arrangement to obligatory regulatory framework.

Green print and social media advertising objectives varied. (Kwon et al., 2024) found that social media platforms advocated more for shallow and vague claims due to the short attention span of digital consumers. In support, our study found that digital media emphasises on creating a green image of the

firm, while print media focuses relatively more on product sustainability. By saturating social media handles with 'green-feel' aesthetics while maintaining vague textual claims, advertisers exploit a cognitive gateway. Social media platforms are 3.16 times more likely to commit greenwashing, than traditional print ads as they continue to employ unverified sustainable terminology and a green palette, failing to comply with the new established greenwashing guidelines. This is an alarming issue for the regulatory agencies as consumer perceived deception and green scepticism will hamper the success of green advertising. Events-based green advertising, especially on social media on World Environment Day and Earth Day unhesitating leveraged 'environment'. Findings exhibit a high association between green advertising and temporal occurrences on environmental occasions like Earth Day. Geographical location and country-of-origin aspects shape global green ad substance, language, and setting. Green advertising collaborations with foreign based technologies garnered consumer trust like Germany in case of automobiles and Japan for refrigerators were positively identified by Indian consumers providing evidence that country-of-origin disposition creating a Green Halo Effect.

The ratio of assertions deemed acceptable to misleading is low, contrary to prior study (Segev et al., 2016). The study analysed vague/omission assertions only to find results mirroring the original study (Carlson et al., 1993). Most claims are green image-based, contradicting existing literature (Saabar et al., 2011). Product and image claims tallied more than process and environmental claims. Textual green claims about the product's environmental friendliness had the highest frequency of sin of omission. Sustainability claims lack transparency. Numerous corporations fail to furnish adequate information regarding their sourcing, production technologies or life cycle of the green products; making it difficult for an average consumer to ascertain if a product or service authentically adheres to environmental standards or just a marketing gimmick. Nonetheless, with increased regulatory scrutiny, heightened consumer awareness, and authentic company sustainability commitment there is optimism for solving this issue.

6. Implications

6.1 Theoretical Implications

This study advances the literature on green advertising by introducing the concept of regulatory evasion displacement. While previous research associated greenwashing to the regulatory lacunas, our findings demonstrate that implementation of specific green legislation like the CCPA guidelines does not completely eradicate the issue but rather reforms into another issue of executional greenwash. The study further emphasises that the regulatory

framework in emerging market such as India focuses on verifiable text rather than unverifiable green aesthetics; creating a green aesthetic paradox and providing support for green halo effect theory. The visual green halo of a brand or a country effectively nullifies the legal requirement for substantiating environmental claims, recognising a vulnerability in the Indian consumer literacy, especially in the green context, where technological sophistication from developed nations could be substituted with environmental responsibilities as suggested by (Bouchareb, 2024). Content analysing executional elements along with the green textual claims provides a methodological advancement in the research and emphasise on the interplay between the visual and textual components affecting the consumer perception in emerging market context, where consumers are more vulnerable to visual stimuli due to varying levels of environmental literacy.

6.2 Managerial Implications

The in-depth intent analysis of green advertisements in the study underscores the necessity for marketers to align their green communication with consumer demands and enhance engagement by integrating functional, emotional, and experiential components in the green advertisements. Given that image-oriented assertions are often the most deceptive, advertisers must exercise greater caution in formulating these messages. The interrelated analysis exhibit that environmental facts are less susceptible to manipulation and hence, it is advised that the managers use it to overcome consumer scepticism. The majority of claims has been categorised as vague and ambiguous, require a little modification in language and shall be supported with other evidences like for it to be accepted by consumers.

6.3 Policy Implications

The study provides empirical evidence that text-based substantiation (QR codes/hyperlinks) is an insufficient deterrent against executional greenwashing. In line with other emerging nations where economic advancement precedes over environmental conservation, India's self-regulatory agency is addressing inflated environmental claims in a voluntary manner. The study also shows that regulatory inadequacies are a fundamental cause of greenwashing. Findings of the study will help the regulatory bodies establish a green advertising regulatory framework where the claim specificity should serve as the indispensable foundation stone. Consumer education programs are essential, particularly for tech savvy but environmentally uninformed audiences, to enhance green literacy and reduce susceptibility to deceptive advertising. The existing Green Guides have little authority as they are not legally binding, making them more stringent

would increase their efficacy in discouraging firms from making deceptive statements. Regulatory agencies should transform voluntary guidelines into enforceable legislation, including verification for green logos, visual symbols, and environmental slogans. We recommend that future iterations of the Green Guides move beyond textual "sins" to include Executional Guidelines. The paper suggests regulatory agencies to establish a standardised green advertising accreditation to reduce consumer scepticism and drive marketers to create more successful green ads that boosts sustainable development goals. An improved Green Guide should mandate lab tests or third-party certifications for green logos, visual symbols, colours, and 'go green' slogans; substantiating green advertisements claims. A regular external Green Audit should be mandated to reduce corporate greenwashing and these reports should be easily accessible to consumers to help them make an informed choice. Legislators must expand the definition of 'misleading' to include proportionality in visual signaling. If an advertisement uses nature as a backdrop (27.6%), it should be mandated to prove a direct, quantifiable link between that imagery and the product's environmental performance. Monitoring green advertising malfeasance with an index, tightening legislation to avoid excessive claims, enforcing national norms, and educating marketers and consumers are feasible solutions.

7. Limitations and Future Agenda

The study acknowledges certain drawbacks. Content analysis uncovers trends, and identify intent behind green claims, but does not measure consumer perception of sustainable advertising. Secondly, market consumers exposed to identical commercials are unlikely to have the same level of assessment as the coders trained for the study. The study also overlooks the green claims that were blatantly untrue, limiting our capacity to understand the scope of deceptive green advertising. Future research could integrate content analysis with experimental design to evaluate consumer reactions to deceptive versus verified green claims and recognise green scepticism trigger points among the Indian consumers. Cross national analysis is recommended to explore variation in green advertising execution and regulatory frameworks across emerging and developed economies. The study made one of the initial attempts to understand the efficacy of India's 2024 guidelines against greenwashing; however, future studies should compare this with well-established frameworks like EU's Green claim directive and understand regulatory evasion displacement as a global phenomenon. Because convenience samples reduce generalisability, further studies shall utilise probability sampling. Word-of-mouth and corporate green advertising were

understudied themes in India because academicians circumvented and skirted greenwashing. Content analysis strongly emphasises that executional greenwashing is an escalating issue in India and hence needs to be further studied. Additionally, exploring certification marks, carbon footprint, tycoons, and traffic light systems could provide practical tools for enhancing green at transparency and credibility.

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Sadhvi Sharma: Writing—original draft, Visualization, Validation, Methodology, Conceptualization.

Rakesh Mohan Joshi: Writing—Review and Editing, Supervision.

Data availability

The data analysed in the study will be provided upon request.

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