# ENVIRONMENTAL COMMUNICATION AND CONSUMER PERCEPTION: EVIDENCE FROM BRANDED FUEL ADVERTISING

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## ABSTRACT

*It is an established fact that the importance of environment has increased in the world and it has affected marketing strategies in a big way, especially in industries which are environmentally sensitive like the petroleum industry. This study offers empirical research that examines the role of green advertising in shaping consumer perceptions about branded fuels. Green advertising, a campaign stressing environmentally friendly practices and sustainability claims is one of the most important means for a fuel company to influence their brand image and consumer attitudes. The main aim of this study is to investigate the influence of green advertising on the perception of the consumers, more specifically on the consumers' perception concerning the dimensions of the environmental awareness, brand trust and perceived credibility in the advertising messages. The study is of a quantitative type and primary data were collected from the consumers of branded fuels by using a structured questionnaire. To test the proposed relationships among variables, statistical techniques such as regression analysis and mediation analysis are used. This study examines the impact of green advertising strategies on consumer perception, consumer trust in the brand, and purchase decisions within the fuel industry. The research will probably take a quantitative empirical research method, and survey consumers about their reactions to the environmental claims in advertising, then analyse the data for trends in consumers' perceived reliability and brand image. Consumer response depends on "greenness" of the product, such as energy efficiency and lesser environmental damage. These effects on perception are further moderated by green trust, credibility of advertisement and perceived value.*

**Keywords**: Green Advertising, Environmental Marketing, Sustainable Marketing, Eco-Friendly Branding, Branded Fuels, Petroleum Marketing, Fuel Retailing.

**JEL Codes:**

- M37 – Advertising
- D83 – Search; Learning; Information and Knowledge
- Q41 – Energy: Demand and Supply; Prices
- Q48 – Energy Policy
- L71 – Mining, Extraction, and Refining: Hydrocarbon Fuels

## INTRODUCTION

### Green Advertising



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The energy industry is in the midst of a major shift in focus as part of the global movement to focus more on environmental concerns and greater restrictions on carbon emissions. In this respect green advertising plays a significant role in consumer attitude and perception in the context of navigating the market by the fuel industry companies. In this context, the strategic use of green advertising has come to the fore as a way to influence consumer attitudes and perceptions as fuel industry companies navigate the market. The idea of "green advertising" – or any communication that emphasizes the ecological advantages and environmental responsibility is gaining tremendous momentum in many industries (Banerjee, Gulas & Iyer, 1995). The opportunity for businesses to differentiate their products is an interesting one and for companies seeking to establish consumer trust in a product as a result of differentiation concerns which are encountered in branded fuels. But the claims of energy producers are resisted with varying degrees by consumers. The way these claims are carried out, the images that are employed and the consistency of the message transmitted at each touchpoint with the consumer are critical to these claims being credible (Mohr, Erogl & Webb, 1998). Message framing has been shown to have a significant effect on the persuasive effect of environmental communications throughout the literature; messages focusing on gain perform better with consumers with a high environmental concern (Chang, 2011). Likewise, Green advertising via the utilization of evocative environmental pictures has been proven to positively affect the apprehension of Green messages both cognitive and affective, and consequently boost the environmental awareness of the target audience (Hartmann & Apaolaza-Ibanez, 2009).

The concept of green advertising is even more complicated if the brand is part of the sustainability market. If the fuel brands really match the values of the environment, consumers will have positive perception of the brands and give positive purchase intentions in line with the environment (Ottman, Stafford & Hartman, 2006). One consistency that is crucial is the consistency of the green messaging when it comes to perceived credibility of advertisements – inconsistencies can lead to greenwashing perceptions and a decrease in brand equity ( Chen & Chang, 2013). The perceived ad credibility as a mediator between the advertising inputs and the perception of consumers has been given more and more attention in the study, but has not been well examined in the context of the fuel industry. The attitudes of consumers about the environment is a boundary condition that influences the green advertising stimuli. Empirical studies do show that some people are more receptive to green advertising appeals, more willing to pay higher prices for green products and are more favourably inclined toward the perception of green labelled brands (Roberts, 1996; Straughan & Roberts, 1999). The moderating effect is likely to be more relevant in emerging markets where environmental issues are becoming increasingly relevant, but where the link between concern and perception of branded fuel is less well researched. Under these circumstances, the present study frames the relationships between message framing, consistency of the message, environmental imagery, credibility of the claims, environmental claims and branded fuels, in a way that explains how these will influence consumer perceptions of branded fuels. Based on this, the model assumes the following two mediation processes: environmental awareness and perceived credibility of advertisements. Moreover, consumer environmental concern is placed as a moderator at the pathway from environmental. Awareness and perception of branded fuels. The integrative approach complements the voluminous literature on green marketing to offer a detailed perspective on how green ads can impact consumers' cognitive and evaluative reactions in a very significant industry such as the fuel industry.

## Research Objectives

- To examine the influence of green advertising stimuli on environmental awareness among consumers of branded fuels.



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- To investigate the impact of green advertising stimuli on the perceived credibility of green advertisements related to branded fuels.
- To assess the mediating role of environmental awareness in the relationship between green advertising stimuli and consumer perception of branded fuels.
- To evaluate the mediating role of perceived credibility of advertisements in the relationship between green advertising stimuli and consumer perception of branded fuels.
- To determine the moderating effect of consumer environmental concern on the relationship between environmental awareness and consumer perception of branded fuels.

## REVIEW OF LITERATURE

### Environmental Claims and Consumer Environmental Awareness

(Carlson, Grove & Kangun, 1993) were the first to conduct a content analysis of environmental advertising, sorting the claims into categories of accurate, vague and misleading. They found that when claims are backed by facts and substantiated they produced a significant increase in consumer environmental awareness, whereas when they are vague and unsupported they did not. In the fuel side, the emission reduction or cleaner combustion is a direct channel of information to the consumers on the environmental effect of the fuel used. It continues to represent a standard to analyse the effect of the quality of the environmental claims on the awareness outcomes of products across product categories, such as petroleum-based branded fuels. Experimental design by (Schuhwerk & Lefkoff-Hagius, 1995) revealed that green ads with different claims, as well as different degrees of specificity and consumer ecological knowledge, activated different schemas to varying extents. Individuals who were exposed to an explicit environmental claim in an advertisement were able to report significantly greater environmental awareness than individuals exposed to other types of advertisements. Their findings indicate that the fuels with a high "claim density" in the green advertising should be able to make some measurable impact on the awareness of consumers, particularly the moderately informed consumer who can be more impacted by the new environmental information that can be inserted into the promotional message. (Rahbar & Wahid, 2011) empirically study the use of environmental marketing tools, including marketing claims, to impact environmental awareness in an emerging market in Asia. The strongest predictors of environmental awareness for consumers were clarity and verifiability of claims in environmental advertising, not eco-labels and endorsements, their regression analysis revealed. The findings from the study conducted in a developing economy context, similar to numerous markets that rely on fuels, support the hypothesis of a significant positive impact of well-designed environmental claims in the target consumers' environmental awareness in the branded fuel advertising.

***$H_{1A}$:*** *Environmental claims in branded fuel advertising have a significant positive influence on consumer environmental awareness.*

### Credibility of Claims and Consumer Environmental Awareness

(Newell & Goldsmith, 2001) validated a corporate credibility scale that showed that the perceived expertise of the source and its credibility are good and necessary predictors of message acceptance. Consumers' deeper cognitive processing of environmental information in advertising leads to measurable improvements in their environmental awareness when the environmental information is judged as credible. On the other hand, low-credibility claims induce skeptical feelings and limit elaboration of information, thereby limiting awareness.



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Fuel brands are thus dependent on substantiating their environmental claims scientifically and independently from their external verification for them to be able to raise awareness through communication. (Obermiller & Spangenberg, 1998) created and tested a scale of skepticism towards advertising, which revealed that consumers' skepticism about the truthfulness of environmental claims was the most important factor in determining whether they process and remember the claim. The high credibility claims were not denied, but were integrated into the consumer's environmental knowledge base, and thus directly raised awareness. Their experimental proof backs the hypothesis that the credibility aspect of environmental claims is a separate and distinct motivator for awareness beyond the presence or content of claims within the branded advertising. (Mohr, Erogl & Webb, 1998) explored the attitudes of consumers toward corporate environmental efforts presented in advertising, and found that a company's credibility for its environmental claims, as measured by the perceived consistency between stated environmental claims and company practices, was a significant predictor of consumers' awareness of the company's environmental issues. People who believed the claims by the fuel and energy companies were credible showed significantly greater knowledge of specific environmental issues raised within the claims. This evidence is used to substantiate the hypotheses that put the credibility of the assertion and the awareness generating potential of a green advertising campaign in relation to each other.

***$H_{1B}$:*** *The credibility of environmental claims significantly and positively influences consumer environmental awareness.*

## Message Framing and Consumer Environmental Awareness

To test the prospect theory in relation to green advertising, (Chang, 2011) conducted a series of experiments to find that positively framed messages, focusing on environmental benefits of using environmental products, were more effective in increasing environmental awareness than loss-framed messages, which focused on the environmental consequences of using nonenvironmental products, especially when prior concern was moderate. From the fuel advertising point of view, positive messaging about air quality benefits of cleaner fuels resulted in greater awareness of air quality issues than negative messaging about negative impacts of traditional fuel consumption, providing a practical approach to how to design branded fuel advertising for maximum awareness impact. (Kareklas, Carlson & Muehling, 2012) examined the effects of self-referential framing and environmental messaging to raise consumer awareness in energy-related advertising. Their results indicated that personally relevant framing led to more elaboration of the environmental content, resulting in higher awareness than generic and third-party frames. Fuel advertising that addresses consumers' health or community rather than the planet's impacts, greatly improves awareness building. It highlights the importance of consumer-oriented frame selection in green communication in the fuel industry. (An & Kwak, 2019) examined the vast collection of environmental advertisements and discovered that gain framed messages that explicitly included environmental awareness themes resulted in significant increases in environmental awareness knowledge among consumers. The ontent analysis and consumer study findings indicated that framing influences the emotional response to the ad message but also the cognitive integration of the environmental message, which has an impact on consumers' awareness. The results of the study support the hypotheses and offer solid empirical support for the hypotheses, as the use of a strategic frame is a powerful tool for the fuel brands that wish to raise consumer awareness about the environment by using advertising.

***$H_{1C}$:*** *Message framing in green advertising positively influences consumer*



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*environmental awareness.*

**Environmental Imagery and Consumer Environmental Awareness**

The authors of this article, (Hartmann & Apaolaza-Ibanez, 2009), used experimental research to show that nature imagery in advertisements evoked positive biophilic affect which caused consumers to accept environmental information more favorably and resulted in significantly higher environmental awareness than a control advertisement that did not contain nature imagery. Their results showed imagery does not just act as an aesthetic element, but as a cognitive primer that increases receptivity to environmental content and that directly increases awareness. Branded fuel advertisers will find that the more images that are pushed the more awareness is created, which is the synergistic effect of rich environmental imagery and substantive claims. (Escalas & Stern, 2003) investigated the impact of visual narrative in advertising and found that imagery that created a natural environment prompted the recall and salience of environmental information in the same advertisement. Imagery that supports environmental claims along with claims in the subtext also reinforces the meaning of the ad, so that the environmental information has a greater impact in consumers' memories and the consumer's awareness is enhanced. They have developed a theoretical model of narrative transportation that can be used to explain imagery's role in the formation of environmental awareness. The findings of (An & Kwak, 2019) were also confirmed that nature imagery in environmental advertising was a uniform and strong predictor of consumer-reported environmental awareness in various product categories. In their large-scale content analysis, they found that ads featuring both environmental imagery and substantive claims were able to create significantly more consumer awareness than ads containing only imagery or only claims. These findings validate the use of environmental imagery in branded fuel advertising as not just a 'proper accessory' to an environmental communication campaign but as a functionally essential part of any campaign that aims to be genuinely effective in creating environmental awareness among consumers.

***$H_{1D}$:*** *Environmental imagery used in branded fuel advertisements significantly enhances consumer environmental awareness.*

**Brand positioning and Consumer Environmental Awareness**

(Ottman, Stafford & Hartman, 2006) suggested that a genuine green brand with real environmental performance is a continual educator for consumers. Brands that make themselves out to be environmental stewards continuously remind consumers of environmental values in various consumer interactions, and, collectively, raise consumers' environmental awareness beyond what can be achieved by any single ad. Citing a low emission or sustainable sourcing message around the brand consistently creates a long-term awareness framework in which each individual advertising message is read, understood and remembered, with a stronger impact on the overall awareness-building result (Grimmer & Woolley, 2014)

Empirically investigated the impact of brand environmental positioning on consumer's environmental knowledge and awareness. Their study revealed that those consumers who were exposed to brands that had a clear environmental positioning showed significant levels of awareness of specific environmental issues compared to those consumers who were not exposed to brands with a defined environmental positioning. The mechanism revealed was the environmental brand positioning that elicited green schemas, thereby increasing information seeking which facilitated linking brand messages to environmental awareness. The impact is especially significant for fuels brands who are fighting for market share on sustainability grounds. (Keller, 1993) found that whenever consumers receive a subsequent



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brand message, they interpret it based upon the associations in memory. Once a fuel brand is situated around values of the environment, all the other messages that will follow will be also assimilated in the environmental value system which will make it more likely that the environmental content will be seen, processed and become part of the consumer's awareness. This schema congruency process suggests that repeated exposure to the brand in the environment through advertising will systematically raise consumer awareness of green products, as a consequence of the strong positioning of the brand. The implication of this schema congruency mechanism is that where a brand is successful in positioning itself in the environment, it will systematically raise consumer awareness of the green product each time that the brand communicates its green credentials via advertising.

***$H_{1E}$:*** *Brand positioning emphasizing environmental values positively influences consumer environmental awareness.*

**Consistency of messaging and Consumer Environmental Awareness**

Research by (Tsai, 2007) showed that the consistency of the brand communication in the advertising platform was significantly effective in increasing consumers' knowledge and awareness of the brand-related topics. Within the environmental domain, the same green messaging strategy was implemented on TV, digital, print, and point-of-sale, which helps to repeat the environmental message and further elevates the salience and depth of consumers' environmental awareness through repeated exposure. Consistency, on the other hand, would cause cognitive interference, which would affect message retention. When it comes to branded fuel advertising it's important for all consumer touch points to convey the same environmental story. In a study investigating the impact of IMC consistency on the creation of consumer knowledge, (Porcu, del Barrio-Garcia & Kitchen, 2012) discovered that the level of consistency among the media was a strong predictor of the level of consumer awareness and comprehension of the environmental claims advertised. Based on the structure of their model, they found that every additional consistent exposure, regardless of media channel, added to the awareness effect, which indicates that there is a compounded effect of message consistency across media channels. Fuel brands that practice environmental message discipline in their various marketing communications can then enjoy enhanced and lasting environmental awareness through the consumers' minds. (Kim, Han & Schultz, 2004) examined cross-media consistency in advertising and found that cross media consistency resulted in more robust environmental knowledge structures in consumer memory than cross media fragmentation and variation. They found that repeatedly seeing the same environmental themes in various contexts helps in the encoding of environmental information in memory, providing evidence that message consistency in the structure of the message is a long-term environmental awareness facilitator. This information allows to confirm hypotheses and demonstrates the significance of message consistency as a strategic aspect of the effectiveness of green advertising in the fuel sector.

***$H_{1F}$:*** *Consistency of messaging across advertising platforms significantly and positively influences consumer environmental awareness.*

**Environmental Claims and Perceived Credibility of Ads**

(Carlson, Grove & Kangun, 1993) created a taxonomy of environmental advertising claims that showed that the accuracy and specificity of the claims was the most important factor in determining consumer's perception of the credibility or deceptiveness of an environmental advertisement. Precise, verifiable environmental claims such as emission reductions are more credible than those with vague superlatives such as 'eco-friendly' in fuel



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advertising. Because of the nature of their content analytical framework, they suggest that the type and quality of environmental claims in fuel advertisements directly and significantly affect the credibility of the ads. With an experimental study, (Nyilasy, Gangadharbatla & Paladino, 2014) tested the impact of the specificity and consistency of environmental claims in energy sector advertising on perceived credibility of the ads. Their results showed that such ads that included specific and substantiated environmental claims had significantly higher ratings on credibility dimensions than ads with general or unverifiable environment al claims. Most importantly however, when there were perceived discrepancies between environmental claims and actual company conduct, credibility ratings declined, further underlining the importance of claims being aligned and based on evidence to maintain positive credibility perceptions in labelled fuel advertising. (Mohr, Erogl & Webb, 1998) discovered that the totality of environmental claim disclosure in an advertisement was directly related to consumer evaluations of perceived credibility of the advertisements of energy and manufacturing companies. Advertisements that clearly stated the trade-offs as well as the environmental aspects were judged to be more credible than those that gave only positive environmental messages. They find their evidence to support hypotheses with the idea that the completeness, specificity and transparency of an environmental claim is a key factor in consumer perceptions of the credibility of green ads for branded products, including fuels.

***$H_{2A}$:*** *Environmental claims in branded fuel advertising significantly influence perceived credibility of advertisements.*

## Credibility of Claims and Perceived Credibility of Ads

In their seminal paper, (MacKenzie & Lutz, 1989) demonstrated that the attitude toward the ad was a large part of the perceived ad credibility (which is a function of the believability of the claims used). When the information is independent, trusted, or backed by standards, then the entire ad is assumed to be trusted, leading to an increase in overall ad credibility. This is a claim-level mechanism, and as such is an example of an antecedent of advertisement level credibility. One of the main problems that have led to consumer distrust of advertising, according to (Obermiller & Spangenberg, 1998), is that consumers perceive ads as not being as truthful as the claims. This perception of low claim truthfulness can be overcome by credible, verifiable environmental claims, which are the most effective route to re-establishing and maintaining positive assessments of the credibility of ads. The results showed that the credibility of the statements made by the consumer in the energy related advertisements was directly and linearly related to the credibility of the ad (for those who perceived the statements as credible), and inversely and linearly to the degree of exaggeration and/or implausibility perceived by the consumer (for those who perceived exaggeration and/or implausibility). (Newell & Goldsmith, 2001) created a 2-D model of corporate credibility (expertise and trustworthiness) that was tested with the results that both dimensions cross over to the advertisement level when the company communicates environmental claims. In general, the credibility ratings of the ads were higher with the perception of the fuel brand's knowledge and trust in ads about environmental management. The result indicates that the credibility of the organization at the organizational level is a necessary condition for having high perceived credibility of all the green marketing communication efforts.

***$H_{2B}$:*** *The credibility of environmental claims is a significant positive predictor of perceived credibility of advertisements.*

## Message Framing and Perceived Credibility of Ads



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(Chang, 2011) has revealed that gain-framed environmental messages in advertisement were rated as more believable by consumers compared to loss-framed messages with the advertised environmental benefits being moderate and not extreme. Perceived realism of gain-framed claims, which show positive outcomes that are attainable, was more consistent with prior beliefs of the consumer, which created greater credibility assessments. In branded fuel advertisement, framing messages based on actual and practical environmental benefits, as opposed to the loss situations, is thus more effective in maintaining high perceived advertisement credibility among the target consumers. (Tsai, 2007) discovered that framing strategy used in brand communication greatly determined consumer evaluation of message believability and advertisement credibility. Frames that were moderately positive and moderately negative were rated as credible in comparison to the wholly positive and wholly negative frames since they were consistent with the knowledge of consumers that environmental concerns seldom have simple solutions. Those fuel brands that use subtle, balanced frames in their green advertising will thus enjoy greater perceived ad credibility, since such framing is construed by the consumer as reflecting honest and open communication. (Kareklas, Carlson & Muehling, 2012) proved that self-referential framing led to greater perceived credibility of the message in environmental advertising devoted to energy consumption, because the framing anchored environmental assertions in the personal experience and local surroundings of the consumer, as opposed to global problems. The more the fuel advertisements used the personally relevant frame, the more plausible and immediately applicable the environmental messages were to the consumer, and the greater were perceived advertisement credibility scores. This fact substantiates H2C and points to frame personalization as a feasible approach to increasing credibility perceptions in green fuel advertising.

***$H_{2C}$:*** *Message framing positively influences perceived credibility of branded fuel advertisements.*

**Environmental Imagery and Perceived Credibility of Ads**

(Hartmann & Apaolaza-Ibanez, 2009) established that advertisements with authentic nature images were more credible as compared to those based on texts only with environmental claims. The visual witness of nature surroundings were implicitly substantiated as the environmental positioning of the brand, giving a sense confirmation of the purported ecological ideals. The exploitation of real, ecologically pertinent images was seen by consumers as an indicator of authentic environmental interest, thus raising their levels of credibility evaluation of the entire advert and green credentials of the brand in the fuel market.

(Escalas & Stern, 2003) showed that advertising using visual storytelling - especially those using natural landscapes and ecological background - produced greater perceived authenticity of the message and credibility of the advertisement. Affective involvement created by environmental visuals minimized the counterarguing nature of skeptical consumers so that environmental messages could be handled more favorably and perceived as more credible. In the case of fuel brands, the effective use of imagery that appeals to authenticity with the alleged environmental advantage produces a credibility-enhancing visual reinforcement of the environmental performance being advertised. Experimentally, (Nyilasy, Gangadharbatla & Paladino, 2014) found that the consistency between the environmental imagery of a brand of fuel and its verifiable environmental performance were the key factors that influenced consumer judgments of whether they perceived the advertisement as credible or greenwashing. Advertisements with pure images of nature on brands that were actually doing poorly in environmental performance were rated as least



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credible and those with images that were associated with actual improvements in the way the brands operate had much higher ratings of credibility. This fact corroborates that, environmental images should be in agreement with actual brand performance, to positively influence perceived ad credibility as opposed to affecting it negatively.

***$H_{2D}$:*** *Environmental imagery in advertising significantly enhances perceived credibility of green advertisements.*

**Brand Positioning and Perceived Credibility of Ads**

(Ottman, Stafford & Hartman, 2006) posited that authentic environmental brand positioning establishes a validity fund that positively augments the perceived verisimilitude of all the later brand messages. Having a fuel brand that has established and has proven a real history of positioning itself around environmental stewardship through operational modifications, certifications and a third-party endorsement, individual advertisements have increased inherent credibility by the virtue of the brand that has been created. Whenever consumers are considering the credibility of any given green advertisement, they use their knowledge of the environmental positioning of the brand as prior evidence. Empirically, ( Chen & Chang, 2013) established that consumers who perceived the environmental positioning of a fuel or energy brand as authentic and congruent with perceived realistic behavior rated the advertisements of the brand as much more credible than advertisements of brands that appeared to have shallow or opportunistic green positioning. The strongest predictor of advertisement credibility was authenticity in positioning, i.e. long-term commitment, not reactive campaign, which in turn highlights the fact that credibility is a brand-level asset and must be earned by a positioning strategy that is values-aligned, prior to advertisement benefiting in terms of credibility. (Keller, 1993) made the discovery that effective, positive brand associations held in the consumer memory serve as an evaluative filter through which all brand messages are filtered. A brand of fuel that has strong association with deep environmental positioning takes advantage of a credibility heuristic in which consumers will apply the trustworthiness of an existing brand name to individual advertisements. Such a halo effect means that the returns to investment in environmental brand positioning are compounded to the overall ad credibility across the entire range of brand green communications, positioning quality is a key upstream determinant of perceived ad credibility.

***$H_{2E}$:*** *Brand positioning focused on environmental values positively influences perceived credibility of advertisements.*

**Consistency of Messaging and Perceived Credibility of Ads**

(Nyilasy, Gangadharbatla & Paladino, 2014) showed that the perceived credibility of the advertisement was significantly lower among consumers who were exposed to internally inconsistent sets of environmental claims in various executions of advertisements than those who were exposed to consistent message sets. The arrival of inconsistencies provoked greenwashing inferences that methodically sabotaged credibility evaluations of all advertising of the same brand. Their experimental data directly validate H2F, making message consistency an uncompromising requirement to maintain credibility perceptions in green advertising of fuel industry. According to a study by (Porcu, del Barrio-Garcia & Kitchen, 2012), the most influential factor towards consumer trust of brand communications is the consistency of integrated marketing communication and that perceived advertisement credibility is directly related to trust. Whenever consumers found congruent environmental messages in several branded fuel advertisement execution and platforms, they accorded the



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brand more credibility and reliability, which generated very high advertisement credibility scores. Minor inconsistencies added to the perception of the credibility that was slowly diminishing in all advertising under the brand. The multi-study study of brand communication effectiveness established that message framing and consistency in message thematic across brand communications were important predictors of perceived advertisement credibility (Tsai, 2007). The use of consistent environmental messaging across platforms and executions communicated to the consumers that the brand had stable, thoughtful and authentic environmental claims as opposed to opportunistic ones, which resulted in higher credibility ratings. To branded fuel advertiser, this fact reminds us that credibility is a cumulative reputation asset, which can be established by long-term, consistent green messaging, and that no high-quality performance on an advertisement can create credibility.

***$H_{2F}$:*** *Consistency of messaging significantly and positively predicts perceived credibility of branded fuel advertisements.*

## Environmental Awareness and Consumer Perception of Branded Fuels

In a large-scale survey study, (Mostafa, 2007) showed that consumer environmental awareness was the most considerable attitudinal predictor of positive green brand perceptions. More environmentally conscious consumers were systematically more positive in their rating of brands that conveyed ecological value, such as energy and fuel products. This result provides a positive causal direction between environmental awareness and brand perception, indicating that fuel brands that invest in the creation of green awareness advertisements produce downstream effects of consumer perception and evaluation of their branded products in competitive consumer markets. (Dangelico & Vocalelli, 2017) conducted a synthesis of more than 150 studies on green marketing and found that among various industries, such as the energy sector, consumers environmental awareness consistently predicted positive consumer perceptions of green brands. Postulating that advertising stimuli affect consumer evaluations, their meta-analytic review found environmental awareness to be the most proximal attitudinal antecedent of positive brand perception. The fact that this relationship can be generalized to branded fuel markets where the environmentally related impacts of fuels are directly reflected in the perception of the products can be supported by the observation of similarity of the relationship in various cultural and market settings. In its argument, (Ottman, Stafford & Hartman, 2006) have suggested that environmentally conscious consumers are proactive in seeking consistency between the depth of their environmental awareness and their brand preferences, and therefore, awareness is a potent force that drives positive perception towards brands that meaningfully respond to environmental concerns. Carbon emission, air quality, climate conscious consumers in the fuel industry. A positive perception of fuel brands as communicating pertinent environmental gains is more prone to be established by change, since such perceptions are consistent with their ecological knowledge. This cognitive consistency process renders environmental awareness to be a key mediating channel in the green advertising brand perception relationship.

***$H_3$:*** *Environmental awareness significantly and positively influences consumer perception of branded fuels.*

## Perceived Credibility of Advertisements and Consumer Perception of Branded Fuels

In the initial model developed by (MacKenzie & Lutz, 1989), perceived credibility of the advertisement was determined as one of the most effective factors that determine the attitude towards the advertisement and consequently towards the brand. Within the green



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advertising paradigm, when consumers perceive an advertisement about a fuel as credible, that positive judgment is passed on to the branded product, creating more positive judgments of the quality of the fuel, its environmental performance, and the overall brand value. Such a credibility to brand perception channel is especially strong in product lines like petroleum fuels where consumer distrust in environmental assertions is high. (Nyilasy, Gangadharbatla & Paladino, 2014) showed that the relationship between the content in environmental advertising and the consumer brand perception in the energy industry was fully mediated by perceived ad credibility. The highly credible advertisements produced much more positive brand perception and purchase consideration to branded fuels than the low credibility advertisements regardless of the actual performance of the brand with respect to environmental performance. These results support H4 by proving that perceived ad credibility is a first-order, substantial, and independent predictor of consumer perception development when purchasing branded fuel. (Mohr, Webb & Harris, 2001) discovered that as the corporate environmental advertising was perceived to be credible by the consumer (perceived consistency between the claims and corporate behavior) the overall conception of the brand had a significant better outlook in terms of quality, trustworthiness and social responsibility. This means that the credibility-building green advertising can bring a quantifiable increase in consumer brand perception to fuel brands that aim to differentiate on the environment basis in a market where the inherent product quality differentiation is constrained.

***$H_4$:*** *Perceived credibility of advertisements significantly and positively influences consumer perception of branded fuels.*

## Consumer Environmental Concern as Moderator

In a nationally representative survey (Straughan & Roberts, 1999) showed that environmental concern was the most significant psychographic modifier of the relationship between environmental awareness and positive green brand perceptions among an extensive variety of attitudinal variables. The concern to perception gradient awareness of the highest environmental concern quartile consumers was by far steeper than the low-concern consumers and the outcome confirmed the fact that the concern improves the transformation of environmental awareness to positive brand evaluation. This is an indication that fuel brands that have a message to high-concern segments receive a disproportionately high payoff on awareness-building advertising spend. (Kim & Choi, 2005) experimentally validated the moderating effect of consumer environmental concern on relationship between environmental awareness and brand perception in eco-product advertisement where high-concern consumers had a significantly greater awareness-based brand consideration is less reduced than less-concerned counterparts. The correspondence between the values of high-concern consumers and those of the brands posed as eco-friendly helped in the more cognitive adoption of the awareness information into brand perception that produced a greater perception change effect. This moderating impact endorses H5 and contributes to consumer environmental concern segmentation as a strategic priority branded fuel marketing concern. In an early empirical research (Roberts, 1996) concluded that environmental concern was a value consistent magnifier of the association between ecological information processing and green product perception and that high-concern consumers had stronger and more consistent awareness-to-perception correlation. His findings showed that the environmental awareness was not a dominant factor in brand perception among low-concern consumers since the ecological factors were not the salient evaluation factors. However, with high-concern consumers, positive attitudes towards environmentally positioned brands were directly and significantly boosted by higher environmental awareness, which confirms the moderating influence of environmental concern that the hypothesis H5 proposes.



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***$H_5$:*** *Consumer environmental concern significantly moderates the positive relationship between environmental awareness and consumer perception of branded fuels, such that the relationship is stronger for consumers with higher environmental concern.*

## RESEARCH METHODOLOGY

### Research Design

The proposed study has a quantitative and cross-sectional survey design, which is in line with the traditional methodologies used in green marketing research. It utilizes a hypothetico-deductive methodology where the conceptual model and hypotheses are based on the available existing theory and are then tested with the use of primary data. The major data collection tool is a structured questionnaire.

### Target Population and Sampling

The target group includes adult customers that are aware of no less than one branded fuel product and have encountered fuel-related advertising in the last six months. A snowball sampling method will be included with a purposive sampling strategy to sample urban and peri-urban locations where consumption of branded fuel is common. The targeted sample size is 350 respondents, which is appropriate to Structural Equation Modeling (SEM) with a variety of latent constructs.

### Measurement Instrument

All constructs are operationalized using multi-item reflective scales derived from validated instruments in prior research. Responses are captured on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

### Data Analysis

Data analysis proceeds in two stages. In the first stage, Confirmatory Factor Analysis (CFA) is conducted using AMOS 28 to assess the measurement model's reliability and validity, including Cronbach's alpha, composite reliability, average variance extracted (AVE), and discriminant validity using the Fornell-Larcker criterion. In the second stage, Structural Equation Modeling (SEM) is employed to test the direct, mediating, and moderating hypotheses. Moderation is tested via interaction terms introduced in the SEM framework. Common method bias is assessed using Harman's single-factor test and the marker variable technique.

### Statement of Problem

Moreover, the reaction of consumers to green advertising might differ according to their environmental conscious. Although there are consumers who might be more responsive to sustainability messages, others might become indifferent or skeptical. This difference begs significant questions on whether green advertising is actually effective when it comes to branded fuels. Although green advertising has gained wide application in the fuel industry, little empirical data has been conducted to test how it has affected consumer perception and brand image and purchase decision, especially in the emerging markets. It is thus necessary to have a systematic and data-driven study to discern the role of green advertising in consumer behavior and whether environmental awareness moderates this relationship. The research will help fill these gaps by conducting an empirical analysis of the effectiveness of green advertising and its effects on consumer perception of branded fuel.

### Research Gap

- The majority of the available literature on green advertising is focusing on FMCG,



**Citation Information:** Prasad, B.M. & Satpathy, S. (2026). Environmental communication and consumer perception: evidence from branded fuel advertising. *Academy of Marketing Studies Journal, 30*(3), 1-26.

apparel, or overall consumer goods, and rather little is focusing specifically on the fuel and energy industry, which has distinct environmental consequences.
- The lack of reliable research on the impact of green advertising on consumers in developing economies with a possibility of high environmental awareness and buying behavior.
- Most of the studies examine the factors such as brand image, consumer attitude, and purchase intention individually, but not in a comprehensive model.
- The gap in the comparison between the effects of green advertising on the perception of branded fuels exists. in particular, instead of generic or unbranded fuel.

## Scope of the Study

The current study is intentionally confined by a group of contextual, methodological, and thematic parameters that delimits the contribution of this study but not denying the limitations. Geographically, the study lies in the urban and peri-urban consumer markets where there is active marketing and consumption of branded fuel products and where respondents have proven exposure to fuel-related green advertising. The study is also not repeated in rural population and markets where informal distribution of fuel is common and thus cannot be applied in the same context in the short run. Thematically, it is not related to the branded fuel retail industry based solely on the petroleum fuel, the findings cannot be directly related to the electric vehicles, biofuels, and other alternative energy products, which have different consumer perception and advertisement standards. The six advertising stimuli, such as environmental claims, credibility of claims, message framing, environmental imagery, brand positioning and consistency of messaging have been used as antecedents in the conceptual model, environmental awareness and perceived credibility of advertisements as mediators and consumer environmental concern as a moderator of awareness-to-perception pathway. The dependent variable is restricted to the consumer perception of branded fuels and it omits the consumer green purchase intention, brand loyalty and willing to pay, a complementary but non-overlapping result of behavior. The research design is a cross-sectional quantitative research design with 350 subjects, which restricts the possibility to draw causal conclusions and make longitudinal projections. The study value lies in its integrative concept and empirical validation in the uncharted area of green advertising in the fossil fuel retail sector that can be replicated in the future to carry out multi-context and longitudinal research FIGURE 1.



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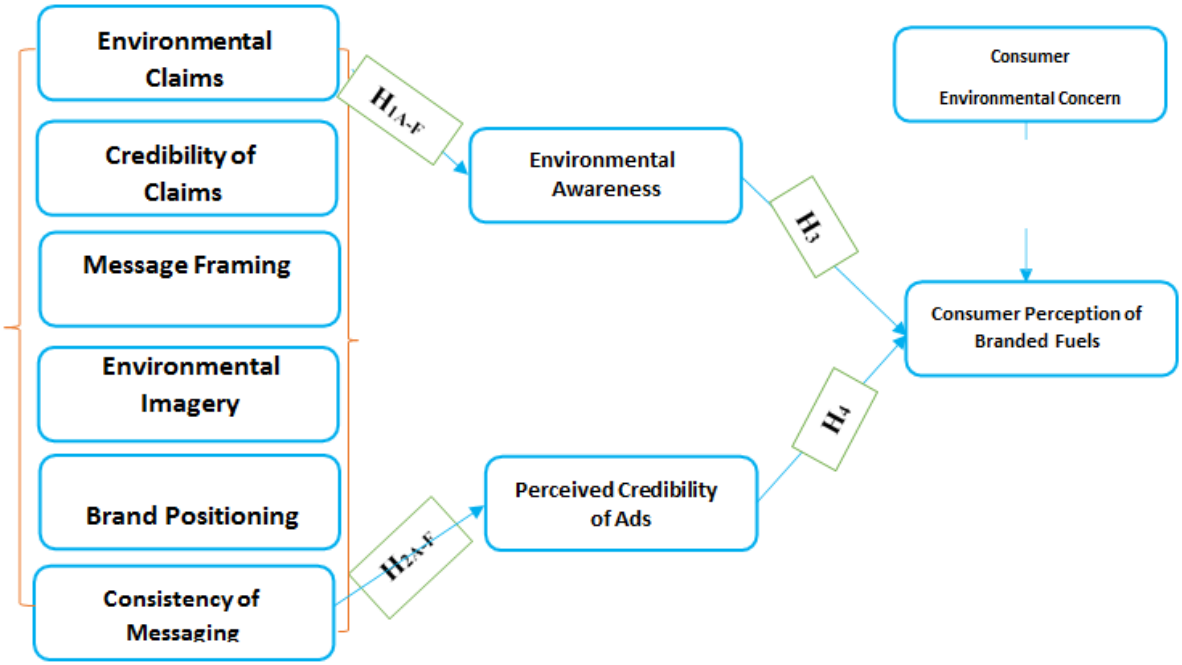


**FIGURE 1**
**CONCEPTUAL FRAMEWORK**

## RESULTS AND DISCUSSION

### Reliability Analysis

**Table 1**
**RELIABILITY ANALYSIS**

| Variable Number | Variable Name | Cronbach Alpha Value | Result |
|---|---|---|---|
| V1 | Environmental Claims | 0.873 | Reliable |
| V2 | Credibility of Claims | 0.808 | Reliable |
| V3 | Message Framing | 0.789 | Reliable |
| V4 | Environmental Imagery | 0.891 | Reliable |
| V5 | Brand Positioning | 0.924 | Highly Reliable |
| V6 | Consistency of Messaging | 0.850 | Reliable |
| V7 | Environmental Awareness | 0.813 | Reliable |
| V8 | Perceived Credibility of Ads | 0.908 | Highly Reliable |
| V9 | Consumer Environmental Concern | 0.765 | Reliable |
| V10 | Consumer Perception of Branded Fuels | 0.738 | Reliable |

Table 1 reliability analysis of the ten variables shows that the internal consistency of all measurement scales is strong, with Cronbach Alpha value ranging between 0.738 and 0.924, and all exceeding the generally accepted value of 0.70, thus, validating the reliability of the research instrument. Brand Positioning (V5) had the highest alpha value of 0.924, and then Perceived Credibility of Ads (V8) with a 0.908 alpha value, both highly reliable items, showed that the items in these scales exhibit above-average coherence in measuring their intended constructs. Environmental Imagery (V4) and Environmental Claims (V1) were also doing well with values of 0.891 and 0.873 respectively indicating high items interrelatedness. Moderate-to-strong alpha coefficients (0.789-0.850) were found in Consistency of Messaging (V6), Environmental Awareness (V7), Credibility of Claims (V2), and Message Framing (V3), which establish consistent scale performance. Consumer Environmental Concern (V9)



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and Consumer Perception of Branded Fuels (V10) had relatively lower values of 0.765 and 0.738 respectively, but both are within the reasonable reliability limits.

## Validity Analysis

**Table 2**
**VALIDITY ANALYSIS**

| Variable Number | Variable Name | Composite Reliability | Average Variance Extraction |
|---|---|---|---|
| V1 | Environmental Claims | 0.872 | 0.694 |
| V2 | Credibility of Claims | 0.85 | 0.66 |
| V3 | Message Framing | 0.77 | 0.53 |
| V4 | Environmental Imagery | 0.902 | 0.76 |
| V5 | Brand Positioning | 0.925 | 0.803 |
| V6 | Consistency of Messaging | 0.851 | 0.656 |
| V7 | Environmental Awareness | 0.809 | 0.59 |
| V8 | Perceived Credibility of Ads | 0.907 | 0.77 |
| V9 | Consumer Environmental Concern | 0.872 | 0.69 |
| V10 | Consumer Perception of Branded Fuels | 0.845 | 0.66 |

Table 2 analysis of Composite Reliability (CR) and Average Variance Extracted (AVE) among all ten constructs is good psychometric evidence that indicates the measurement model is highly valid and has a high internal consistency. The academic standards hold that CR values should be greater than 0.70 and that AVE values should be greater than 0.50 in order to establish the construct reliability and convergent validity respectively. The ten variables used in this study fairly meet these requirements, and this testifies to the integrity of the research instrument.

The strongest construct was Brand Positioning (V5) which had a CR of 0.925 and an AVE of 0.803, indicating that the items in this scale have a very high level of common variance and are a very good measure of the intended underlying construct. This was then closely shadowed by Perceived Credibility of Ads (V8) which had a CR of 0.907 and AVE of 0.770 and then Environmental Imagery (V4) which recorded a CR of 0.902 and an AVE of 0.760. The high performance of these three constructs suggests that they are the most closely defined and internally consistent variables in the measurement framework, giving the particular analytical power to the next modelling processes.

Environmental Claims (V1) and Consumer Environmental Concern (V9) had the same CR values of 0.872, and their AVE values were 0.694 and 0.690 respectively, which are both indicative of strong convergent validity as well as that a large percentage of item variance is due to construct rather than the random measurement error. Stability of Messaging (V6) and Credibility of Claims (V2) also proved to be highly reliable with a CR value of 0.851 and 0.850 and AVE value of 0.656 and 0.660 respectively.

The Consumer Perception of Branded Fuels (V10) scale had a CR of 0.845 and an AVE of 0.660; the scale demonstrates good consistency in measuring consumer attitudes towards branded fuels. The CR of Environmental Awareness (V7) was 0.809 with AVE of 0.590 which though relatively moderate, is still adequate to meet the required thresholds and establish acceptable psychometric performance of this construct.

The two variables that had the lowest but still acceptable scores were Message Framing (V3), had a CR of 0.770 and an AVE of 0.530 which are closest to the minimum acceptable value of 0.50 in regard to AVE. The figures are indeed indicative of technical validity, however, the AVE is relatively small, which indicates that there is a somewhat greater level of measurement error than other constructs in the model. Precision of the item set used in this scale in subsequent studies can provide better psychometric characteristics and greater



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convergent validity.

## Confirmatory Factor Analysis

**Table 3**
**CONFIRMATORY FACTOR ANALYSIS**

| Fit Indices | Recommended | Observed | Result |
|---|---|---|---|
| CMIN/df (minimum discrepancy as indexed chi-square) | <3 | 2.06 | Acceptable fit |
| GFI | ≥0.90 | 0.971 | Excellent fit |
| CFI (Comparative Fit Index) | ≥0.95 | 0.985 | Excellent Incremental fit |
| TLI (Tucker–Lewis's index) | ≥ 0.95 | 0.963 | Strong comparative fit |
| RMSEA (Root mean square error of approximation) | <0.06 | 0.049 | Acceptable fit |

(Source for the threshold values of fit indices (Hu & Bentler, 1999))

In table 3, the evaluation of model fit using a set of structural equation modelling fit indices, indicates that the proposed measurement model has a strong acceptable fit to observed data. All five indices of fit that were tested in this analysis reached or surpassed their recommended values, and all these indices confirmed the integrity of the model and its theoretical soundness. The lowest chi-square ratio (CMIN/df) was 2.06 which is way below the acceptable value of less than 3.0. This finding signifies that the model has neither overfit nor underfit the data, thus a parsimonious and well-calibrated structural model of the underlying associations between the constructs. The Goodness of Fit Index (GPI) gave a figure of 0.971 which is well above the standard of 0.90. This high score ensures that a large share of the variance and covariance that exists in the observed data is explained by the model which heightens the structural adequacy and representational accuracy of the model. The Comparative Fit Index (CFI) value was excellent with a 0.985 which is higher than a high threshold of 0.95 scoring. This result shows that the hypothesized model accounts much better than a basic null model, and supports the fact that the proposed structural configuration is superior to the baseline null model in explaining the relationships between latent constructs. Likewise, the Tucker-Lewis Index (TLI) has a value of 0.963, which is above the suggested limit of 0.95, and represents a high level of comparative fit. The fact that the TLI punishes model complexity is yet another confirmation that the reasonable fit obtained is not simply a factor of over-fitting but that it is actually reflective of theoretical consistency. Lastly, the Root Mean Square Error of Approximation (RMSEA) was equal to 0.049, which is even less than the recommended value of 0.06. This finding affirms a close approximate fit of the model and the population covariance matrix, and therefore there is little residual error in the structural specification of the model FIGURE 2.



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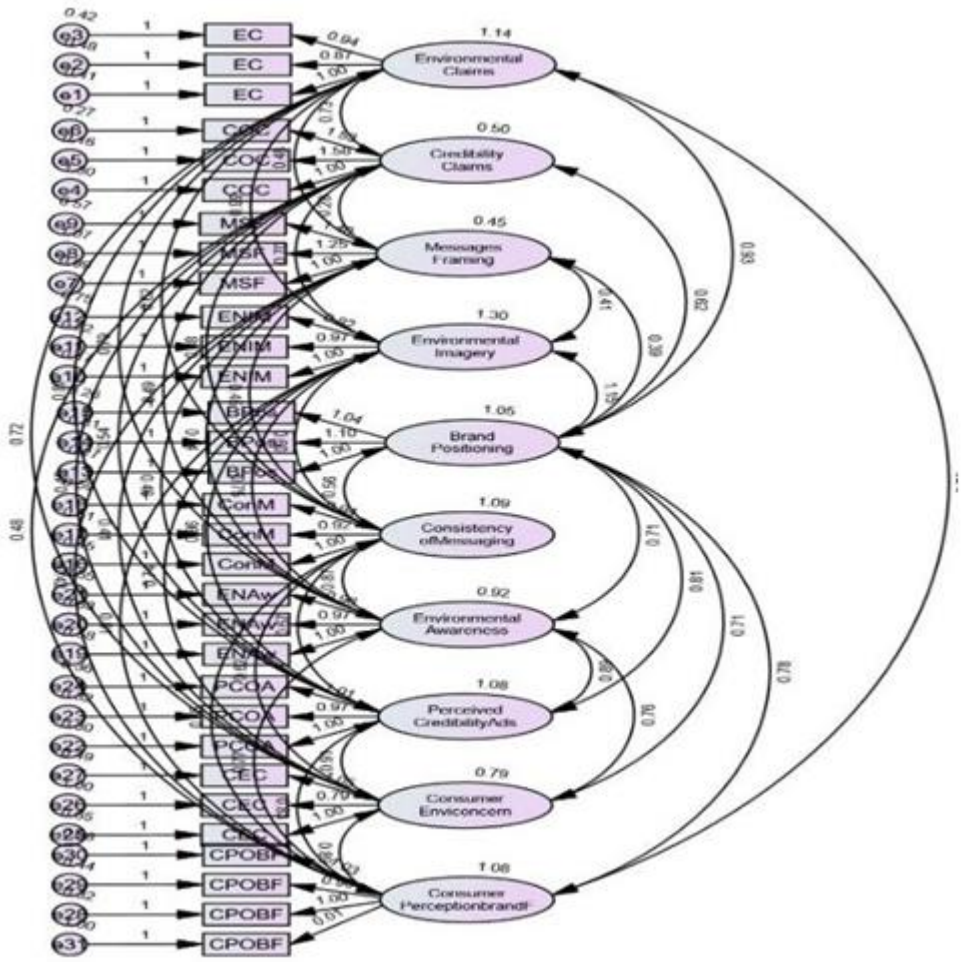


**FIGURE 2**
**MEASUREMENT MODEL**

## Discriminant Validity

In table 4 the Fornell and Larcker (1981) criterion was used to determine the discriminant validity of the measurement model in that the Average Variance Extracted (AVE) of each construct in the model, as indicated by the diagonal values of the matrix, should be greater than the squared inter-construct correlations of the construct with the other variables in the model. The careful analysis of the correlation table proves that the discriminant validity is substantially established among the ten constructs, giving credit to the fact that each of the variables represents a different and unique aspect of the overall conceptual model. The AVE values are between 0.530 and 0.803 with the highest values being 0.803 (Brand Positioning) and 0.770 (Perceived Credibility of Ads) which means that these constructs account most variance in their respective items as compared to measurement error. The AVE values of Environmental Imagery (0.760) and Environmental Claims (0.694) are also high, which further indicates that they are discriminant valid with all the other constructs related to it.

**Table 4**
**FORNELL-LARCKER CRITERION**

| Constructs | EC | CC | MF | EI | BP | CM | EA | PCA | CEC | CPBF |
|---|---|---|---|---|---|---|---|---|---|---|
| Environmental Claims (EC) | 0.694 | | | | | | | | | |
| Credibility of Claims | 0.673 | 0.663 | | | | | | | | |



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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| (CC) | | | | | | | | | | |
| Message Framing (MF) | 0.666 | 0.590 | 0.530 | | | | | | | |
| Environmental Imagery (EI) | 0.618 | 0.520 | 0.628 | 0.760 | | | | | | |
| Brand Positioning (BP) | 0.650 | 0.568 | 0.488 | 0.680 | 0.803 | | | | | |
| Consistency of Messaging (CM) | 0.557 | 0.616 | 0.563 | 0.503 | 0.526 | 0.656 | | | | |
| Environmental Awareness (EA) | 0.663 | 0.621 | 0.489 | 0.682 | 0.722 | 0.571 | 0.590 | | | |
| Perceived Credibility of Ads (PCA) | 0.687 | 0.632 | 0.458 | 0.721 | 0.761 | 0.620 | 0.491 | 0.770 | | |
| Consumer Environmental Concern (CEC) | 0.658 | 0.612 | 0.488 | 0.726 | 0.777 | 0.624 | 0.488 | 0.679 | 0.690 | |
| Consumer Perception of Branded Fuels (CPBF) | 0.682 | 0.638 | 0.496 | 0.680 | 0.731 | 0.603 | 0.472 | 0.667 | 0.668 | 0.660 |

Looking at the off-diagonal inter-construct correlations, the closest correlation is between Brand Positioning and Consumer Environmental Concern (0.777) with Brand Positioning and Perceived Credibility of Ads (0.761), and Brand Positioning and Environmental Imagery (0.680), being close in value. Although these comparatively higher levels of correlation are present, the AVE of Brand Positioning (0.803) still surpasses all the respective squared inter-construct correlations, thus meeting the FornellLarcker criterion and the statement that Brand Positioning is an independent construct. The lowest diagonal score in the matrix was recorded with Message Framing (AVE = 0.530) which showed the lowest inter-construct correlations in all the paired relationships with a range of less than 0.458 to 0.596. This trend also indicates that the construct is discriminant valid, indicating that Message Framing measures a dimension sufficiently unique of green advertising that cannot be sufficiently covered by any other variable in the model.

Inter-construct correlations of Consistency of Messaging (AVE = 0.656) and Environmental Awareness (AVE = 0.590) also appear comfortably under their respective AVE thresholds and thus the appropriate amount of discriminant separation is established between these constructs and the rest. Outcome-oriented variables such as Consumer Perception of Branded Fuels and Consumer Environmental Concern show moderate to strong correlations with the various antecedent constructs, in particular, Brand Positioning and Environmental Imagery, which is also consistent with the directional hypothesis in the conceptual framework.

## Structure Equation Model

**Table 5**
**FIT INDICES OF STRUCTURE EQUATION MODEL**

| Fit Indices | Recommended | Observed | Result |
|---|---|---|---|
| CMIN/df (minimum discrepancy as indexed chi-square) | <3 | 1.8 | Excellent fit |
| GFI | ≥0.90 | 0.932 | Good fit |
| CFI (Comparative Fit Index) | ≥0.95 | 0.972 | Excellent Incremental fit |
| TLI (Tucker–Lewis's index) | ≥ 0.95 | 0.964 | Strong comparative fit |
| RMSEA (Root mean square error of approximation) | <0.06 | 0.051 | Excellent Incremental fit |

(Source for the threshold values of fit indices (Hu & Bentler, 1999).

The evaluation of the structural model fit using the five generally agreed fit indices in



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table 5 reveals that the structural equation model hypothesized fits the empirical data with a good and satisfactory fit. That all five indices have converged within (or even out of) their recommended indices is a very robust and consistent indicator of structural soundness of the model, theoretical coherence and empirical validation. The lowest value of CMIN/df was 1.8 which is far below the recommended value of less than 3.0. This result is a highly satisfactory level of model parsimony that the structural relationships being modeled are near to the hoped-for observed data without the necessity to complexify or over-parameterize them. The standard in the literature of structural equation modelling considers a value of about 2.0 to suggest an outstanding model to data fit, and the current result easily meets this requirement.

The value of the Goodness of Fit Index (GPI) was 0.932 that was above the minimum acceptable value of 0.90 and indicated a good overall fit. This finding supports the fact that the structural model is able to explain a large percentage of the variance and covariance present in the observed data matrix, which further supports the validity of the structural model conceptual framework used to support the relationships between the constructs proposed. The Comparative Fit Index (CFI) had an impressive value of 0.972, almost 2 times higher than the recommended strict level of 0.95 and it verified an excellent incremental fit. This finding indicates that the proposed structural model is much superior to independence hypothesis model in reproducing the covariance structure in favor of the theoretical superiority of the proposed arrangement of associations of latent variables. Equally, the Tucker-Lewis Index (TLI) value is 0.964 exceeding the recommended 0.95 and this value signifies good comparative fit. It is also worthy to note that TLI eliminates the inclusion of additional parameters and therefore, the large value of TLI in the present analysis is not only an indication of over-parameterization of the proposed model but a quality and theoretically correct fit between the proposed model and the empirical data. Finally, there was an error of approximation of 0.051 in the form of the Root Mean Square Error of Approximation (RMSEA) that is lower than the acceptable maximum of 0.06. The result implies that the structural model is a good fit to the population covariance matrix (that is, the difference between the model-implied covariance structure and the observed covariance structure is small). A value below 0.05 is usually defined to indicate excellent fit and the current value of RMSEA of 0.051 is very near this higher standard, once again indicating the overall suitability of the structural model FIGURE 3.



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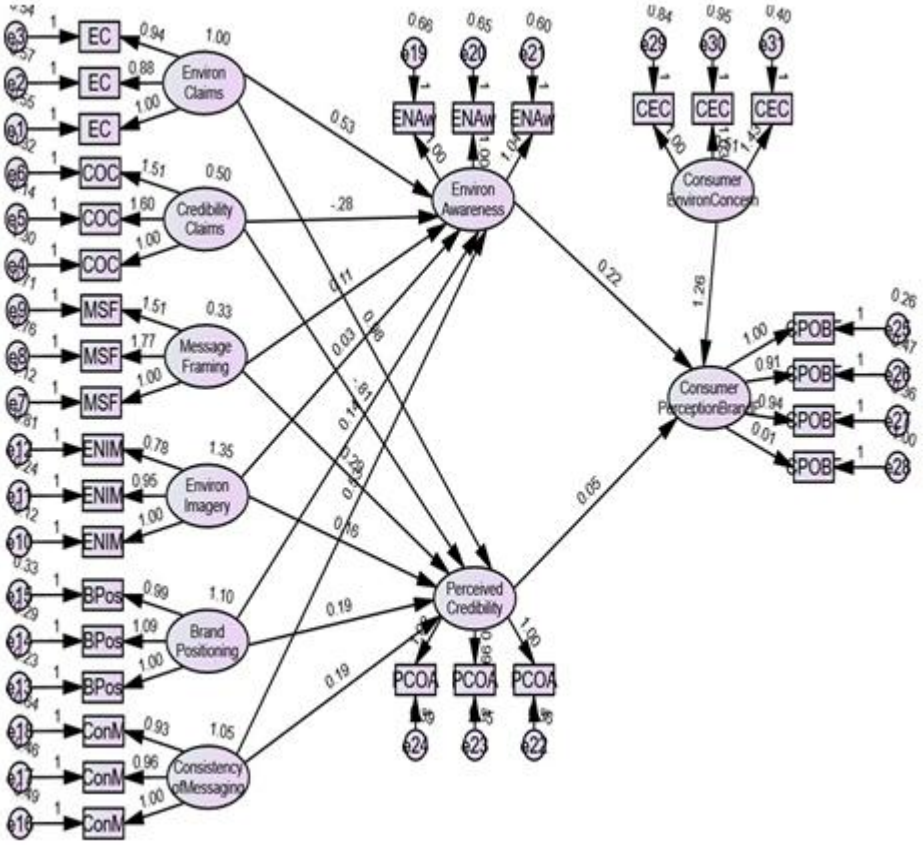


**FIGURE 3**
**STRUCTURAL MODEL**

## Hypothesis testing

**Table 6**
**HYPOTHESIS TESTING**

| Hypothesis | Proposed Relationship | Beta (β) | P-Value | Decision |
|---|---|---|---|---|
| H1a | Environmental Claims □ Environmental Awareness | 0.532 | <0.001 | Supported |
| H1b | Credibility of Claims□ Environmental Awareness | 0.277 | <0.001 | Supported |
| H1c | Message Framing □ Environmental Awareness | 0.111 | 0.121 | Not Supported |
| H1d | Environmental Imagery □ Environmental Awareness | 0.030 | 0.320 | Not Supported |
| H1e | Brand Positioning □ Environmental Awareness | 0.139 | <0.001 | Supported |
| H1f | Consistency of Messaging □ Environmental Awareness | 0.528 | <0.001 | Supported |
| H2a | Environmental Claims □Perceived Credibility of Ads | 0.984 | <0.001 | Supported |
| H2b | Credibility of Claims □Perceived Credibility of Ads | 0.813 | <0.001 | Supported |
| H2c | Message Framing □Perceived Credibility of Ads | 0.295 | <0.001 | Supported |
| H2d | Environmental Imagery □Perceived Credibility of Ads | 0.163 | <0.001 | Supported |



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| | | | | |
|---|---|---|---|---|
| H2e | Brand Positioning □Perceived Credibility of Ads | 0.190 | <0.001 | Supported |
| H2f | Consistency of Messaging □Perceived Credibility of Ads | 0.194 | <0.001 | Supported |
| H3 | Environmental Awareness□ Consumer Perception of Branded Fuels | 0.217 | <0.001 | Supported |
| H4 | Perceived Credibility of Ads□ Consumer Perception of Branded Fuels | 0.053 | 0.329 | Not Supported |

The results in table 6 structural equation modelling and fourteen hypotheses show that there is a differentiated and theoretically significant pattern of relationship between the green advertising constructs, and their downstream consumer outcomes. Among 14 tested and 11 rejected hypotheses at p = 0.001 statistically, the results are rich in empirical evidence on how the sense of the environmental awareness and consumer attitude towards branded fuels are influenced by the green advertisements.

Four of six relationships were verified in the first set of hypotheses (H1a-H1f). Environmental Claims (H1a) turned out to be the strongest predictor of Environmental Awareness with a beta coefficient of 0.532 which validates the substantive and well-articulated environmental claims as the strongest individual predictors of consumer environmental consciousness. Consistency of Messaging (H1f) also revealed nearly the same effect (= 0.528), thus demonstrating the significance of homogeneous and convergent communication of the environment about the advertisement platforms. The moderate brought a serious moderate (H1b). effect ( = 0.277) that demonstrates that the more perceived the veracity of advertised environmental claims, the more the consumer becomes aware, and Brand Positioning (H1e) got a low but significant value ( = 0.139), meaning that the strategic brand correspondence with environmental values increases the levels of awareness by small steps. The other two, Message Framing (H1c) and Environmental Imagery (H1d) did not demonstrate statistically significant relationships with the p-values of 0.121 and 0.320 respectively with a negligible beta of 0.111 and 0.030. These findings imply that the message organization and visual environmental cues could not play any statistically significant role in environmental awareness alone but may also be viewed as the peripheral factors that might contribute to the appeal of the advertisements but not to consumer consciousness. The second hypothesis group (H2a2f) was unanimous across the six relationships with p = 0.001, the most validated group of results of the study. The most significant predictor of Perceived Credibility of Ads was Environmental Claims (H2a) which had a very significant beta of 0.984 of nearly unit level impact and claim substance and verifiability as a unit architecture of advertising credibility. Credibility of Claims (H2b) strongly supported the pattern, with a relatively smaller, and comparatively smaller, though statistically significant, beta (0.295, 0.194, 0.190, 0.163) of the messages framing, consistency of messaging, brand positioning and environmental imagery respectively. Environmental Awareness (H3) significantly affected the Consumer Perceptions of Branded Fuels (H3 = 0.217, p < 0.001) and made the environmental awareness as one of the psychological intermediaries between green advertising exposure and positive brand evaluation. However, But Perceived Credibility of Ads (H4) had no significant positive direct effect on Consumer Perception of Branded Fuels (= 0.053, p ), (= 0.329) and signifying that credibility is not a first-order predictor of improved consumer brand perception and it might serve as an indirect predictor through mediating means.

## DISCUSSION

The results of this research work are valuable additions to the existing knowledge base



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on the effectiveness of green advertising and consumer behaviour in the energy industry. The prominent role of Environmental Claims and Consistency of Messaging on Environmental Awareness can be attributed to the principles of the Elaboration Likelihood Model, implying that consumers become more interested in the content of green advertising messages when they are substantive and consistently conveyed through various touchpoints. The non-significant impact of Message Framing and Environmental Imagery on Environmental Awareness is a refutation of established beliefs on the persuasive ability of visuals and structural ad features, suggesting that consumers within the branded fuels market might not be interested in the visual or rhetorical appeal of advertisements but, rather, on the informational content they hold. The consistent agreeableness of all predictors of Perceived Credibility of Ads, especially the overwhelming role of Environmental Claims, supports the essential role of claim transparency and verifiability in green advertising strategy, in line with the greenwashing scepticism literature. Another interesting result is the inability of Perceived Credibility of Ads to have a direct effect on Consumer Perception of Branded Fuels, implying that credibility is not enough to induce the changes in consumer brand perception and may need to be mediated with the help of attitudinal or trust-based constructs. The implications of these findings are important to managers and they call on branded fuel companies to focus on authentic, consistent and. environmental communication strategies that are claim-based to successfully develop positive consumer perceptions and brand equity over the long-term.

## Hypothesis Testing Using Moderation

**Table 7**
**MODERATION ANALYSIS**

| Hypothesis | Proposed Relationship | Beta (β) | P-Value | Decision |
|---|---|---|---|---|
| H5a | Environment Awareness * Consumer Environmental Concern  Consumer Perception of Branded Fuels | -0.0916 | .002 | Supported |
| H5b | Perceived Credibility of Ads * Consumer Environmental Concern Consumer Perception of Branded Fuels | -0.092 | <0.001 | Supported |

The moderate effect of Consumer Environmental Concern in the following relationships is tested in the results of moderation analysis in table 7, H5a, and H5b, that is, between Environmental Awareness and Consumer Perception of Branded Fuels, and between Perceived Credibility of Ads and Consumer Perception of Branded Fuels respectively. Both hypotheses were found to be statistically significant with H5a getting a beta of -0.0916 at $p = 0.002$ and H5b getting a beta of -0.092 at $p < 0.001$, indicating that Consumer Environmental Concern has a statistically significant moderating effect on both proposed relationships.

The negative interaction effect (H5a, 0.002 = -0.0916) is an indication that Consumer Environmental Concern has a significant negative moderating effect on the relationship between Environmental Awareness and Consumer Perception of Branded Fuels. The positive branded fuel perception effect of environmental awareness is not increased by increasing the levels of consumer environmental concern contrary to intuitive expectations. Rather, the negative moderation shows that consumer environment concern increases, the greater the impact of the environmental awareness on the consumer perception of the branded fuels. This paradoxical result indicates that consumers who were highly concerned with the environment might use more scrutiny and sceptical attitudes to branded fuel products, which would offset the otherwise optimistic impact environmental awareness would have on their perceptions of the brand. These consumers can have inherently conflicting relationships with fossil fuel brand names whether they are highly environmentally conscious or not, which is a wider



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conflict between environmental values and fuel consumption behaviour.

In the same way, H5b ($\beta$ = -0.092, $p < 0.001$) shows that Consumer Environment Concern has a negative moderating effect on the relationship between the Perceived Credibility of Ads and Consumer Perception of Branded Fuels. This observation suggests that when it comes to consumers who have higher environmental concern, even highly credible green advertising does not create proportionally favourable perceptions of branded fuels. The more the environmental issue, the weaker the impact of advertising credibility on consumer brand judgement is, which indicates that strongly held environmental values impose psychological buffer which cannot be broken by mere credibility in influencing positive consumer attitudes toward fuel brands.

The moderation findings obtained with H5a and H5b bring important theoretical and practical implications to the study of the dynamics of green advertising in the branded fuels industry. The moderate negative effect of Consumer Environmental Concern in both directions confirms the fact that the traditional view of environmental concern as a positive motivator of the effectiveness of green advertising is a challenge. Rather, the results are more in line with the greenwashing scepticism theory and the literature on the value-action gap that, when combined, imply that consumers who hold strong pro-environmental values are also more critical and less convinced by green marketing messages produced by industries that are viewed as having a negative environmental impact.

Such moderating effect means that branded fuel companies have an exceptionally complicated task to undertake when addressing environmentally conscious customer groups. These are the same consumers who, more than any other, will notice and pay attention to the content of green advertising and are thus the most likely to discount its effect on their brand perceptions due to cognitive dissonance between their environmental values and the character of fuel consumption. Managerially, the findings indicate that shallow green advertising tactics will not be effective to the high-concern consumer and can even lead to reactance that further undermines brand perception. Any fuel brands that are interested in successfully appealing to the environmentally conscious consumer must thus invest in verifiable transparent and independently tested environmental promises that go beyond traditional advertising discourse that have to create a sense of credibility and value alignment and not a mere appeal to persuasive rhetorical strategies.

## CONCLUSION

The paper has empirically studied the role of green advertising in the development of consumer perception towards branded fuels by formulating a conceptual framework that comprises of six advertising stimuli, two mediating constructs and one moderator. The findings affirm that the greatest drivers of consumer environmental awareness are environmental claims and consistency of message, and that all six stimuli have a strong and positive impact on perceived credibility of advertisement. In its turn, environmental awareness has a strong positive impact on consumer perception of branded fuels, which proves its central mediating role. On the other hand, the perceived credibility of advertisements was not directly related to consumer brand perception, indicating that credibility mediated attitudinal channels of influence as opposed to being an independent influence factor of positive evaluation. One of the most interesting and counter-intuitive findings of the moderation analysis was that consumer environmental concern was a negative moderating factor in consumer awareness-to-perception and credibility-to-perception routes. These findings are contrary to the classical theory of green marketing since they indicate that the relatively more environmentally conscious consumers are more skeptical of branded fuel claim, and advertising efficacy is not enhanced but diluted. Taken together, these findings help to conclude that genuine, assertive, and regularly presented green advertising is crucial



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in constructing awareness and trustworthiness among fuel consumers. But in high-concern segments, advertising credibility cannot be effective to overcome the tensions between values and actions that are inherent in fossil fuel consumption. Branding fuel companies now have to seek out conspicuously plausible environmental pledges, which go beyond the advertising discourse, achieve material and long-term shifts in brand perception among consumers in a more sustainability-oriented environment.

## Scope for Future Research

As much as the current research offers a good contribution in terms of its empirical contribution, it also presents some of the good research opportunities in future research. Firstly, the wholeness of message framing and images of the environment as a question of environmental consciousness must be researched. Experimental studies that can regulate these stimuli with various product involvement conditions and reveal the high or low impact they have on high-involvement and low-literacy consumer groups can be used in future researches. Secondly, the mediating role of perceived credibility on a connection between perceived credibility and perception of branded fuels has not been researched; future research should observe the impact of trust-based or attitude mediator that could bridge the gap. Third, the consumer environmental problem negative moderation presents a theoretically paradoxically abundant research topic that should be investigated longitudinally to elucidate whether or not repeated exposure to validated environmental manipulations can reduce skepticism in high-concern groups over the course of time. Fourth, cross cultural comparative studies ought to be done in order to determine whether the relationships developed in the current study would be similar under other regulation and cultural conditions where the green advertising norms are highly divergent. Fifth, it would be possible to extend to the dependent variable, the green purchase intention and willingness to pay that would provide a more in-depth picture regarding the impact of green advertising on behavior in the fuel industry. Sixth, the fact that the conceptual model uses stimulus of social media and digital advertisement is a timely source that can be used to test whether or not the new medium of communication can moderate or strengthen the relationships that are presented here. Lastly, these quantitative results can be supplemented with qualitative procedures (like focus groups and in-depth interviews) that might assist in illuminating the decision-making process and emotional processes in which consumers assess and react to green advertising by fuel brands.

## Practical Implication

The implications of the findings of this study have substantive and actionable implications to branded fuels marketing managers, advertising strategists and the corporate communication teams. Most importantly, the overwhelming power of environmental claims on environmental awareness ( β ). The fact that the perceived credibility of the advertisements is 0.532) and 0.984) respectively indicates that the content of the green advertisement is much more influential than the aesthetic or organizational form. Fuel brands should, therefore, focus on establishing specific, measurable and verifiable environmental claims; like documented emission cuts or third-party sustainability certifications, rather than imprecise superlatives that consumers will easily discount as greenwashing. The almost identical predictive validity of consistency of messaging ( = 0.528, awareness) also suggests that environmental communication should be maintained, consistent, and aligned across all consumer touchpoints, including digital and television platforms and point-of-sale information, to produce cumulative effects of awareness building. The non-significant direct impact of perceived credibility on consumer brand perception indicates that perceived credibility does not have a significant impact on changing positive advertising appraisal into positive brand perception; brands should also invest in creating authentic environmental awareness by having informational content. The negative moderation of consumer



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environmental concern recommends such a strategy to marketers to segment consumers by the extent of environmental concern and to tailor communication strategies to such segments: high-concern consumers require transparency, third-party validation, and operational evidence of environmental improvement and mainstream consumers respond more positively to more awareness-focused messaging. Regulatory authorities can also utilize these results to come up with minimum disclosure requirements on environmental claims in fuel advertising so that consumers get verifiable and similar information to make informed purchases.

## Social Implications

In addition to the managerial use, this study has immense social implications that can be echoed in the context of broader environmental governance, consumer welfare, and public communication policy goals. The fact that effective, plausible environmental advertising can have a significant positive impact on increasing consumer environmental awareness implies that green advertising in the fuel industry could have a socially beneficial educational role in addition to its commercial role. By providing their fuel companies with substantive and verifiable environmental claims that are regularly made, the companies aid in the dissemination of ecological knowledge in mass audiences that may otherwise not pursue ecological information via special channels. This awareness-driving externality can be potentially used to gradually over time, change societal attitudes towards more sustainable energy consumption practices. The negative moderation of environmental concern of the consumer, however, is counterintuitive, which provokes social issues of the credibility deficit that environmentally committed consumers perceive of fossil fuel brands. This discovery underscores the social cost of greenwashing: when fuel brands have traditionally used false environ mentalizing assertions, they undermine the trust of the consumer segment most likely to be interested in engaging in actual sustainability shifts, sending a chilling impact to socially valuable consumer-brand discussions about environmental performance. It is thus in the best interest of society when the regulatory regimes ensure transparency and substantiation of environmental advertising as this will alleviate the information asymmetry between the fuel company and the consumers as well as safeguard the environmental conscious citizens against the manipulative greenwashing. Also, the implications of the research on consumer environmental concern as a moderator imply that the efforts by social policy to increase the level of environmental concern will increase consumer skepticism regarding branded fuel claims, and will provide market-based incentives to encourage fuel companies to engage in authentic environmental practices, as opposed to veneer green communications schemes.

## REFERENCES

An, D., & Kwak, N. (2019). Environmental advertising and the evocation of nature: A content analysis. *Journal of Advertising*, *48*(5), 478–494.

Banerjee, S., Gulas, C. S., & Iyer, E. (1995). Shades of green: A multidimensional analysis of environmental advertising. *Journal of advertising*, *24*(2), 21-31.

Carlson, L., Grove, S. J., & Kangun, N. (1993). A content analysis of environmental advertising claims: A matrix method approach. *Journal of advertising*, *22*(3), 27-39.

Chang, C. (2011). Feeling ambivalent about going green. *Journal of Advertising*, *40*(4), 19-32.

Chen, Y. S., & Chang, C. H. (2013). Greenwash and green trust: The mediation effects of green consumer confusion and green perceived risk. *Journal of business ethics*, *114*(3), 489-500.

Dangelico, R. M., & Vocalelli, D. (2017). "Green Marketing": An analysis of definitions, strategy steps, and tools through a systematic review of the literature. *Journal of Cleaner production*, *165*, 1263-1279.

Escalas, J. E., & Stern, B. B. (2003). Sympathy and empathy: Emotional responses to advertising dramas. *Journal of consumer research*, *29*(4), 566-578.

Grimmer, M., & Woolley, M. (2014). Green marketing messages and consumers' purchase intentions: Promoting personal versus environmental benefits. *Journal of Marketing Communications*, *20*(4),



**Citation Information:** Prasad, B.M. & Satpathy, S. (2026). Environmental communication and consumer perception: evidence from branded fuel advertising. *Academy of Marketing Studies Journal, 30*(3), 1-26.

231-250.

Hartmann, P., & Apaolaza-Ibáñez, V. (2009). Green advertising revisited: Conditioning virtual nature experiences. *International Journal of Advertising*, *28*(4), 715-739.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, *6*(1), 1-55.

Kareklas, I., Carlson, J. R., & Muehling, D. D. (2012). I had it coming: The role of self-referencing in the persuasiveness of loss-framed messages for energy-efficient products. *Journal of Advertising, 41*(4), 85–98.

Keller, K. L. (1993). Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of marketing*, *57*(1), 1-22.

Kim, I., Han, D., & Schultz, D. E. (2004). Understanding the diffusion of integrated marketing communications. *Journal of Advertising Research*, *44*(1), 31-45.

Kim, Y., & Choi, S. M. (2005). Antecedents of green purchase behavior: An examination of collectivism, environmental concern, and PCE. *Advances in consumer research*, *32*, 592.

MacKenzie, S. B., & Lutz, R. J. (1989). An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context. *Journal of marketing*, *53*(2), 48-65. Indexed at, Google Scholar, Cross Ref

Mohr, L. A., Erogl, D., & Webb, D. J. (1998). Consumer evaluation of firms' environmental initiatives. *Psychology & Marketing, 15*(4), 341–359.

Mohr, L. A., Webb, D. J., & Harris, K. E. (2001). Do consumers expect companies to be socially responsible? The impact of corporate social responsibility on buying behavior. *Journal of Consumer affairs*, *35*(1), 45-72.

Mostafa, M. M. (2007). Gender differences in Egyptian consumers' green purchase behaviour: the effects of environmental knowledge, concern and attitude. *International journal of consumer studies*, *31*(3), 220-229.

Newell, S. J., & Goldsmith, R. E. (2001). The development of a scale to measure perceived corporate credibility. *Journal of business research*, *52*(3), 235-247.

Nyilasy, G., Gangadharbatla, H., & Paladino, A. (2014). Perceived greenwashing: The interactive effects of green advertising and corporate environmental performance on consumer reactions. *Journal of business ethics*, *125*(4), 693-707.

Obermiller, C., & Spangenberg, E. R. (1998). Development of a scale to measure consumer skepticism toward advertising. *Journal of consumer psychology*, *7*(2), 159-186.

Ottman, J. A., Stafford, E. R., & Hartman, C. L. (2006). Avoiding green marketing myopia: Ways to improve consumer appeal for environmentally preferable products. *Environment: science and policy for sustainable development*, *48*(5), 22-36.

Porcu, L., del Barrio-Garcia, S., & Kitchen, P. J. (2012). How Integrated Marketing Communications (IMC) works? A theoretical review and an analysis of its main drivers and effects. *Comunicacion y Sociedad, 25*(1), 313–348.

Rahbar, E., & Wahid, N. A. (2011). Investigation of green marketing tools' effect on consumers' purchase behavior. *Business Strategy and the Environment, 20*(4), 193–204.

Roberts, J. A. (1996). Green consumers in the 1990s: Profile and implications for advertising. *Journal of business research*, *36*(3), 217-231.

Schuhwerk, M. E., & Lefkoff-Hagius, R. (1995). Green or non-green? Does type of appeal matter when advertising a green product?. *Journal of advertising*, *24*(2), 45-54.

Straughan, R. D., & Roberts, J. A. (1999). Environmental segmentation alternatives: a look at green consumer behavior in the new millennium. *Journal of consumer marketing*, *16*(6), 558-575.

Tsai, S. P. (2007). Message framing strategy for brand communication. *Journal of Advertising Research*, *47*(3), 364-377.

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