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Building Trust in Green Brands: A Dual-Path Model of Consumer Perception and Social Media Communication

Abstract

The trust in green brands is constructed with a dual-path technique, which this study aims to showcase through consumer perception and social media communication. Trust formation is examined through corporate environmental actions and key opinion leader (KOL) communications using questionnaires and social media data to employ a mixed-methods approach. From 1,247 respondents and 45,000 social media posts, it is revealed that both consumer perception and social media communication paths substantially shape green brand trust, with synergistic effects from environmental initiatives and KOL endorsements. Structural equation modelling shows consumer perception to mediate the trust and corporate actions relationship ($\beta = 0.42$, $p < 0.001$) while KOL communication quality acts as a moderator ($\beta = 0.38$, $p < 0.001$). The results suggest that substantive environmental actions endorsed by credible KOLs who advocate for the brand lead to enhanced trust-building effects beyond individual influences. Trust is advanced as a multi-dimensional construct shaped by cognitive and social influence mechanisms in green marketing theory. Strategically allied with expert KOLs, organisations are advised to make authentic environmental commitments to maximise trust formation, as these actions foster substantial trust formation. In digital contexts, the dual-path model aids in understanding the complexities of contemporary green brand trust dynamics.

Keywords: green brand trust; consumer perception; social media communication; key opinion leaders; dual-path model

1 Introduction

The convergence of green brand trust, consumer perception, and social media communication stands as a focal inquiry of concern within contemporary marketing research. More intricately, recent works have uncovered the ways social media as a platform enables brands to participate in sustainable consumption, while also enabling consumers to interact with the brands. In particular, Wu and Long demonstrate that green communication increases the intention of using green products among social media users, thus showcasing the power of digital environmental messaging on green purchasing behaviour [1]. Such contributions are complemented by Nguyen et al., who empirically studied the perceptions of information usefulness and trust, along with their interplay and collective influence towards the intentions of making eco-friendly purchases on social media platforms [2].

The challenge of greenwashing has become increasingly prominent in sustainability marketing discourse. Rahman, Stumpf-Wollersheim, and Bruns address this critical issue by proposing a dual-strategy approach that couples green marketing initiatives with enhanced consumer perception mechanisms to combat deceptive environmental

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claims [3]. The role of key opinion leaders in shaping consumer trust has gained particular attention, with Tran and Nguyen revealing that KOLs significantly influence purchasing intentions for green fashion products through their ability to establish credibility and authenticity in digital environments [4]. Shah et al. extend this understanding by empirically demonstrating that green brand knowledge, trust, and social responsibility collectively shape consumer choices, with brand knowledge emerging as the most influential factor in developing purchase intentions [5].

The different theories that have been used to study consumer preparedness for sustainable consumption are quite numerous. Informed consumers are more likely to actualise positive purchase intents, thus Shehawy and Khan explain green awareness as a moderator that enhances the correlation between purchase intentions and environmental attitudes [6]. Environmental psychology has been explored in social media contexts concerning eco-centric initiatives by Zhang, Li, and Chen, who demonstrate that the online availability of environmental information facilitates participation in eco-friendly activities [7]. These findings inform comprehensive green marketing strategies that elevate brand reputation and consumer confidence in a self-reinforcing sustainable development virtuous cycle proposed by Kumar and Pradhan [8].

The rise of green social media influencers marks the change of scope in environmental marketing. Cheung, Wong, and Lee approach this issue using social capital theory, showing how bonding social capital with influencers and consumers promotes electronic word-of-mouth behaviours that sustain eco-marketing [9]. As a direct contribution to this discourse, NguyenViet and Thanh Tran merge corporate social responsibility with the receptivity of green advertising to demonstrate that green trust mediates the impact of organisational sustainability initiatives on consumer spending behaviour [10]. Together, these results illuminate the intricacies of green brand trust in the context of the digital ecosystem, interlinking corporate social responsibility, social media phenomena, and consumer behavioural mechanisms.

2 Theoretical Framework and Research Hypotheses

The integration of several theories to construct green brand trust through consumer perception and social media interaction illustrates sophisticated reasoning. Green brand trust develops as a multidimensional structure consisting of cognitive, affective, and behavioural dimensions which demonstrate the degree of a consumer's reliance on a brand's environmental and sustainability commitments. This thinking expands the boundaries of brand trust and incorporates aspects of brand credibility, sustainable competence, and ecological benevolence which are vital constituents that shape consumer trust towards green brand promises.

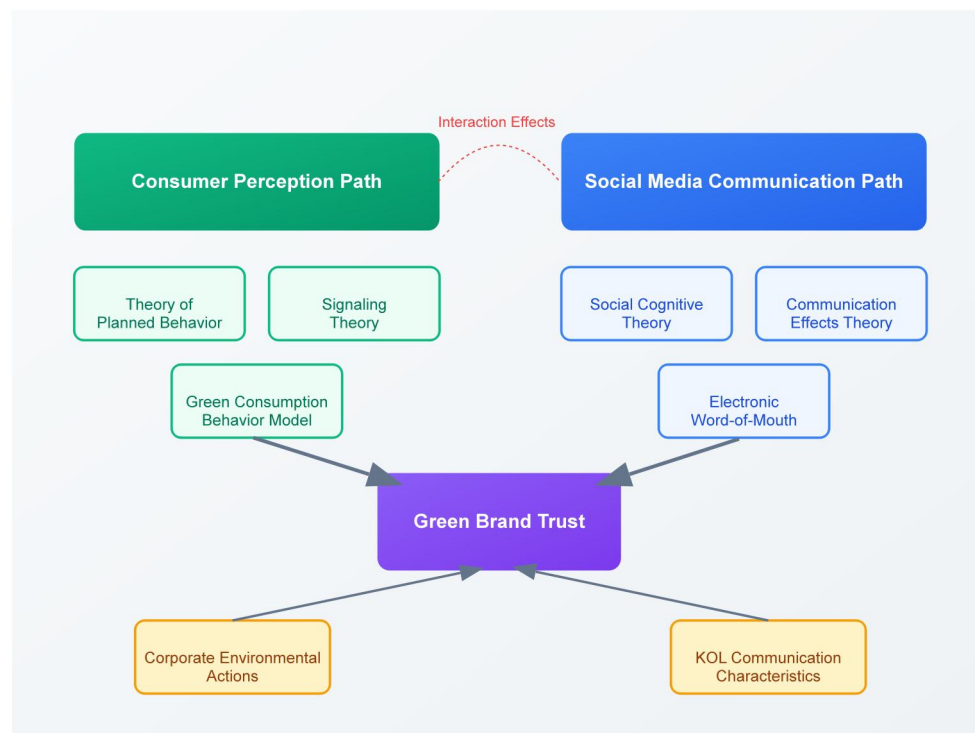
The consumer perception pathway relies mainly on the Theory of Planned Behavior – where attitudes, subjective norms, and perceived behavioural control shape intentions and consumption of green brands. This viewpoint is complemented by signalling theory, which explains how corporate environmental actions function as signals in the market, reducing information asymmetry between firms and consumers. Corporations

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that pursue certifiable environmental projects engage in initiatives that confirm sustainable commitment, which affects consumer perceptions regarding brand authenticity and trust. Furthermore, the green consumption behaviour model enhances this pathway by adding environmental consciousness, perceived consumer effectiveness, and understanding of green products as crucial determinants in trust construction.

The social media communication pathway utilises Social Cognitive Theory to explain the learning and evaluation processes regarding green brands through the observational learning within social media ecosystems. Communication Effects Theory explains the impact that message attributes, the credibility of the sender, and the medium's attributes have on the effectiveness of green brand communications. Electronic word-of-mouth theory explains the impact of peer communications and influencer marketing on the shared perception of green brand legitimacy. This pathway acknowledges the fact that social media transform longitudinal one-way brand communication into a conversation interspersed with consumer and influencer commentary.

The creation of a dual-path model elucidates a novel synthesis of direct brand-to-consumer interaction with information processing distributed through social networks. This model shows in figure 1 how consumer perception together with social media communication functions as jointly operating but distinct systems for the development of trust in green brands. The model acknowledges that contemporary consumers pay attention to direct brand signals, social validation cues, and trust judgment cues simultaneously when making trust assessments about environmental claims.



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Figure 1: Dual-Path Model of Green Brand Trust

Actions taken by a corporation to protect the environment can be classified as substantive actions (investments in green technology, sustainable supply chain management, and emission reductions that can be measured) and symbolic actions (greenwashing, environmental awards, and sustainability reporting). Trust influence mechanisms operate through perceived authenticity and how consistency claims are made in relation to actions performed as well as how environmental performance is disclosed with much clarity and openness. Key Opinion Leader (KOL) communication also includes trust components like experts' credentials, distance to the audience, engagement, and originality of the message. It is also noted in the KOL influence model that trusted KOLs act as middlemen to complex environmental information and consumer information.

The interaction effects corporate actions and KOL communications create have a theoretical foundation, revealing synergistic impacts: expansions of corporate strategies alongside KOL communications. The amplification effect on substantive environmental actions results as a KOL endorsement strengthens credibility, but exponentiates when combined with the influencer's reputation. This multiplicative effect can be explained through KOL endorsement which functions as an external compliment to the business's assertions while easing the perceived cost of relating to consumers.

The integrated framework outlined in the previous chapter will be used to formulate primary and secondary hypotheses. Primary hypotheses consider the direct impacts of consumer perception and social media communication on trust toward a green brand's image. Secondary hypotheses analyse the impact of perceived environmental actions on trust through heightened consumer perception, exploring mediating mechanisms. Moderation hypotheses focus on the KOL (Key Opinion Leader) characteristics that moderate the impact of corporate actions on the level of trust. Finally, interaction hypotheses study the synergistic impact between perception and communication paths.

The conceptual model integrates all variables while maintaining a clear description of their relations, which allows for the adaptability of the model to the multifaceted nature of green brand trust development in the digital sphere. Independent variables are specified as types of corporate environmental actions and characteristics of KOL communication. These include consumer's environmental knowledge, brand authenticity perception, social proof mechanisms as mediating variables. The dependent variable, green brand trust, is framed as a multidimensional construct encompassing confidence in environmental claims, support willingness, and behavioural loyalty towards sustainable brands. This theoretical framework strengthens the analysis of modern consumers' trust in green brands as mediated through perception and socially mandated communication by direct interaction and moderated exposure, enabling robust empirical examination.

3 Research Design and Empirical Analysis

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Integration of survey data with social media analytics in this study follows the sophisticated mixed-method approach to comprehensively analyse the dual-path model of trust formation in green brand. Through this methodological triangulation, comprehensive analysis of reputation and consumer insight is achieved alongside rigorous validation of intuition-based theoretical propositions, illustrating intricate consumer perceptions as well as the unstructured flow of social media interactions. Dominance of quantitative analysis in the sequential explanatory design is augmented by qualitative analysis to illustrate complex mechanisms for trust-building and provide insightful understanding.

The questionnaire development process involved rigorous scale construction drawing from established measures while adapting items to the green brand context. Green brand trust was measured using a seven-item scale ($\alpha = 0.89$) encompassing credibility, benevolence, and integrity dimensions. Consumer perception variables included environmental consciousness (five items, $\alpha = 0.86$), perceived authenticity (six items, $\alpha = 0.88$), and green knowledge (four items, $\alpha = 0.82$). KOL influence was assessed through perceived expertise (four items, $\alpha = 0.85$) and communication quality (five items, $\alpha = 0.87$). The pilot study with 150 respondents refined item wording and confirmed factorial structure before the main survey deployment.

The demographic consumption survey was executed using a multi-stage sampling technique. Distribution via professional survey platforms brought in 1,247 responses which were subject to excessive data trimming. After removing blank submissions and those that lacked logical coherence, only complete and consistent responses were kept. While there was slight overrepresentation of urban respondents aligning with sustainable consumption tendencies, overall respondent characteristics showed sufficient representation from various age cohorts (18 to 65 years), income brackets, and geographic areas.

The gathering of social media data concentrates on three primary platforms: Instagram, Twitter, and TikTok, which are noted for their roles in green brand communication and KOL (Key Opinion Leader) activities. Web scraping algorithms collected 45,000 posts for 15 identified green brands over a period of six months. Sentiment and engagement as well as influence networks were assessed alongside metrics comparison through KOL (Key Opinion Leader) activity utilising Natural Language Processing to uncover patterns relevant to the green brands. KOLs were identified using follower numbers, engagement rates, and content align relevance scoring that resulted in 125 active accounts promoting the green brands which were highly influential.

The measurement model evaluation confirms robust psychometric properties across all constructs. Confirmatory Factor Analysis yields satisfactory fit indices:

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$\chi^2 / df = 2.34$, $CFI = 0.95$, $TLI = 0.94$, $RMSEA = 0.048$, and $SRMR = 0.042$.

Composite reliability values exceed 0.80 for all constructs, while Average Variance Extracted surpasses 0.50, establishing convergent validity. Discriminant validity is confirmed through the Fornell-Larcker criterion and HTMT ratios below 0.85. As shown in Table 1, measurement properties demonstrate strong reliability and validity across all constructs.

Table 1: Measurement Model Properties and Descriptive Statistics

Construct	Items	Cronbach's α	CR	AVE	Mean	SD
Green Brand Trust	7	0.89	0.91	0.64	4.82	1.23
Environmental Consciousness	5	0.86	0.88	0.59	5.34	1.08
Perceived Authenticity	6	0.88	0.90	0.61	4.67	1.31
Green Knowledge	4	0.82	0.84	0.57	4.95	1.15
KOL Expertise	4	0.85	0.87	0.62	5.12	1.19
Communication Quality	5	0.87	0.89	0.60	4.88	1.26
Corporate Environmental Actions	6	0.90	0.92	0.65	4.73	1.29

Structural equation modeling reveals significant direct effects supporting the dual-path framework. The consumer perception path demonstrates strong influence on green brand trust ($\beta = 0.42$, $p < 0.001$), while the social media communication path exhibits comparable impact ($\beta = 0.38$, $p < 0.001$). Corporate environmental actions directly influence trust ($\beta = 0.31$, $p < 0.001$) and indirectly through consumer perceptions.

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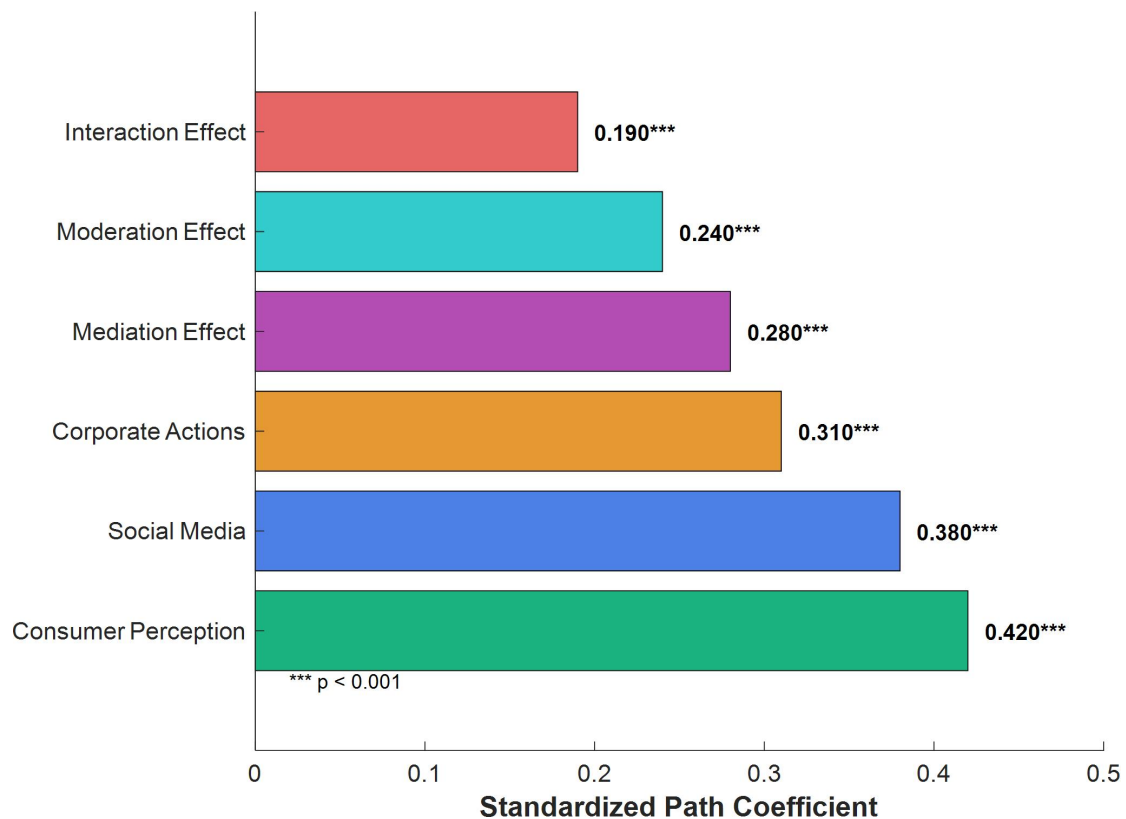


Figure 2: Path Analysis Results for Green Brand Trust Model

Mediation analysis confirms that consumer perception partially mediates the relationship between corporate environmental actions and green brand trust (indirect effect = 0.156, 95% CI [0.098, 0.219]). The moderation analysis reveals that KOL communication quality significantly moderates the corporate actions-trust relationship ($\beta_{interaction} = 0.13$, $p < 0.01$), with stronger effects observed under high KOL influence conditions. As illustrated in Figure 2, interaction effects demonstrate multiplicative benefits when substantive environmental actions coincide with credible KOL endorsements.

Comprehensive verificatory analyses using different estimation techniques, subsample evaluations, and common method bias evaluation tests reinforce the reliability of the overall results. Further analyses distinguishing differences across brand categories and examining their evolution over time offer deeper trust dynamics elucidating the brand trust formation process. The complete findings are presented as a combination of statistics and their theoretical interpretation which demonstrates the functioning of synergistic dual-path mechanisms that cultivate green brand trust in the modern digital landscape. These insights enhance understanding of the interplay between consumers' perception shaped by social media and the brands' environmental trust communications.

4 Conclusions and Future Directions

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This study offers convincing evidence for the dual-path model of green brand trust by illustrating how consumer perception and social media communication complement each other in trust development towards green brands. The results indicate that both pathways are important in shaping green brand trust, with consumer perception having a somewhat stronger impact than social media communication. Most importantly, the combined effect of corporate environmental activities and KOL communication results in trust-building impacts that are greater than the sum of their parts.

The contributions to theory span several areas in the marketing discipline. For the theory of green brand trust, this study develops the theory further by viewing trust as a multidimensional phenomenon that is formed through social processes and cognitive thinking mechanisms. The dual-path model adds pedagogical value to social media marketing theory by illustrating how social media and marketing change traditional processes of trust creation via networked communication and influencer proxy. Within consumer behaviour theory, there is now an appreciation of the more holistic understanding of consumer decision-making as the individual evaluation and socially constructed reality, especially in the context of sustainability where the level of information asymmetry and lack of trust is high.

Actionable strategies for addressing the challenges of green marketing are guided by the word practicality, distinct along the environmental actions of a company compared to consumers' sophisticated-and-telling detection sustainability commitment trust dots. As social media influencer marketing continues to flourish, authentic environmental advocates—as opposed to massive follows—should take the forefront due to their EO trustable influence credibility moderation resilience on social marketing effectiveness. As consumers engage and understand the complicated nature of the environment, their emotional ability to connect transcends rational explanations, enabling them to make sense of sustainability missions through transparent accessible storytelling integrated with open initiatives.

While broadening the scope of future research focuses on the contributions made through this investigation's scope, the overarching digitally engaged cross-section sample certainly favours portraying an underrepresented digitally active consumer portraying vigorous bounded patterns of environmental advocacy. Considering fast-paced evolving social media platforms alongside dynamic public relations engagements like corporate social responsibility (CSR), data timeliness poses challenges with how swiftly the bar and standard for consumer sustainability demands shift. Limitations regarding the measurement of certain variables include the self-reported attitude toward environmental conservation ventures and the lack of obtainable social engagement metrics from social media data. Drawing conclusions on trust building processes stagnated within a cross-sectional design temporal focus ever dynamically unfold stretches causal inference limitations.

Focus of this foundational work reveals untapped potential in expounding it further. Culture comparative studies focus on differences within a society's ethnic values to see how a specific culture is perceived. The gradual monitoring studies would illuminate the temporal trust evolution dynamics centred around its initial formation,

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erosive phases, and recovery post-environmental backlash. The emerging social platform technology like virtual reality and blockchain marked sustainability claims need to rethink trust-building processes. Additional explorations can also look into cross-generational patterns of trust construction and hypothesis across various industries and the impact of negative information on processes of destruction trust processes. Methodological innovations could be made through experimental approaches focusing specific on targeted action plans and cognitive processing of green brand information through neuroimaging. Understanding how brands sustainably sculptable strategies to enhance blended trust and eco-sustainability objectives while doing business in a connected conscious requires deep multifaceted work.

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