

Source Credibility and Green Purchase Intention in Social Media Marketing: The Mediating Roles of Green Brand Image and Green Trust and the Moderating Role of Greenwashing Skepticism

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Abstract—Green claims on social media come from very different voices, brand accounts, paid influencers, and ordinary users, yet green purchase intention research rarely treats the source of a claim as a variable in its own right. This study addresses that gap with a serial moderated mediation model in which perceived source credibility predicts green purchase intention through two sequential mediators, green brand image and green trust, while greenwashing skepticism weakens the first stage of the second link, the path from brand image to trust. Grounded in signalling theory and the persuasion knowledge model, the model was tested on survey data from 412 adult social media users using partial least squares structural equation modelling (PLS-SEM). The measurement model showed adequate reliability and validity across all five constructs. All four direct paths were supported: source credibility predicted green brand image ($\beta = 0.512, p < .001$), brand image predicted green trust ($\beta = 0.487, p < .001$), green trust predicted purchase intention ($\beta = 0.441, p < .001$), and source credibility retained a smaller direct effect on purchase intention ($\beta = 0.129, p = .025$), indicating partial rather than full mediation (VAF = 73.6%). Greenwashing skepticism significantly weakened the brand image to trust path ($\beta = -0.163, p = .001$), and the conditional indirect effect of source credibility on purchase intention fell from 0.145 at low skepticism to 0.071 at high skepticism, supporting moderated mediation. The model explained 26.2%, 33.1%, and 39.7% of the variance in brand image, trust, and purchase intention respectively. These findings extend signalling theory into a sequential, trust-transfer account of green marketing persuasion and offer practical guidance on sequencing credibility- and trust-building content, particularly for audiences already wary of environmental claims.

Index Terms—source credibility; green brand image; green trust; greenwashing skepticism; green purchase intention; serial moderated mediation; PLS-SEM

I. INTRODUCTION

A brand's own post, a sponsored influencer's demonstration, and a stranger's comment can describe the exact same green product within minutes of each other on the same feed. Green purchase intention research has grown substantially over the past decade, yet it has paid surprisingly little attention to whether these different voices produce different psychological effects, even though source credibility has been treated as consequential for persuasion outside the green marketing space for decades (Ohanian, 1990).

This gap may help explain an inconsistent pattern running through recent findings. Studies extending the Theory of Planned Behaviour to social media report that usage predicts subjective norms and perceived control but has a weaker, sometimes negative, direct link to purchase intention (Nekmahmud et al., 2022), while research grounded in stimulus-organism-response logic finds a more consistently positive relationship between social media information sharing and green purchase intention (Sun & Xing, 2022). A systematic review of digital green marketing names greenwashing skepticism as one of the field's least examined challenges and notes that green content originates from distinguishable sources, brands, influencers, and ordinary users, without testing whether that distinction matters (Alkhatib et al., 2023). Separately, green brand image has emerged as a strong, consistent mediator of purchase intention across marketing-mix studies, at times outperforming belief-based constructs (Majeed et al., 2022).

None of these studies isolates source credibility directly, so it would be premature to claim they jointly demonstrate a missing mechanism. What they do suggest is that social media exposure has mostly been measured as a single, undifferentiated variable, usage frequency, sharing behaviour, general exposure, in a way that may be absorbing a source-dependent effect no one has separated out yet. Endorser and influencer research supports this reading: perceived trustworthiness and expertise shape how favourably promoted content is received, independent of what it says (Lou & Yuan, 2019; Belanche et al., 2021; Chetioui et al., 2020). A parallel literature on greenwashing skepticism shows that once consumers suspect a sustainability claim is exaggerated, their evaluation of it, and sometimes of the brand more broadly, becomes markedly more guarded (Sun & Shi, 2022; Ali et al., 2021; Xiao et al., 2022).

This paper builds and tests a focused model: does perceived source credibility shape green purchase intention through a sequence of evaluative and confidence-based mechanisms, green brand image and green trust, and does a consumer's baseline skepticism condition how strongly the second link in that chain operates? Rather than combining several behavioural theories, the model draws primarily on signalling theory (Spence, 1973) to explain why credibility should matter and on the persuasion knowledge model (Friestad & Wright, 1994) to explain why skepticism should weaken part of the sequence. It specifies five constructs and seven hypotheses, tested on survey data from 412 respondents using PLS-SEM. The aim is not to resolve every inconsistency in the broader literature but to isolate one plausible mechanism, ground it in established theory, and report the resulting evidence for when, and for whom, source-based trust in green marketing translates into purchase intention.

II. LITERATURE REVIEW

2.1 Green purchase intention and the limits of undifferentiated social media measures

The antecedents of green purchase intention are well documented: attitude, subjective norms, perceived behavioural control, environmental concern, and brand knowledge each predict green purchasing across product categories and contexts (Ajzen, 1991; Nekmahmud et al., 2022; Mazhar et al., 2022). Social media is increasingly added as an antecedent, but

almost always as a composite construct that does not distinguish who a consumer perceives to be behind the content (Sun & Xing, 2022; Alkhatib et al., 2023). Given evidence elsewhere that source identity shapes persuasion independently of message content (Ohanian, 1990; Lou & Yuan, 2019), studies that treat exposure as one variable may be averaging across meaningfully different effects, which could partly explain why some report clean positive effects (Sun & Xing, 2022) and others weaker, inconsistent ones (Nekmahmud et al., 2022).

2.2 Source credibility in digital and influencer marketing

Source credibility research typically operationalises trustworthiness, expertise, and attractiveness (Ohanian, 1990). In digital contexts, message value and perceived credibility jointly shape how much branded content is trusted (Lou & Yuan, 2019), and influencers seen as authentic and knowledgeable outperform those seen as commercially motivated (Belanche et al., 2021; Chetioui et al., 2020). This extends to sustainability specifically: influencer credibility predicts green purchasing among younger consumers (Rodrigo & Mendis, 2023) and shapes green purchase intention even after accounting for eco-labelling (Shahabuddin, 2024). User-generated content and electronic word-of-mouth carry comparable, sometimes greater, persuasive weight than brand-originated content, partly because they read as less commercially motivated (Kim & Johnson, 2016; Hung et al., 2023; Panopoulos et al., 2023), and brand credibility has been shown to mediate the exposure-to-intention relationship in fashion contexts too (Martín-Consuegra et al., 2018). Most of this evidence, however, comes from outside environmental marketing specifically, which is the gap addressed here.

2.3 Green brand image as a mediating mechanism

Green brand image, the sustainability-linked associations a consumer holds about a brand, repeatedly mediates the relationship between green marketing signals and purchase intention. Chen (2010) established it, alongside green satisfaction and green trust, as a core driver of green brand equity, and later work shows eco-labelling, green packaging, and green pricing raise purchase intention substantially through brand image, at times more strongly than through

environmental beliefs directly (Majeed et al., 2022). Comparable mediating roles, sometimes alongside green trust, appear in FMCG and hospitality research (Tan et al., 2022; Astarini et al., 2023), supporting green brand image as a well-validated first mediator for the present model.

2.4 Green trust as a sequential mediator

A related but distinct literature examines green trust, a consumer's willingness to rely on a brand's environmental credibility and performance. Chen (2010) treated it as a parallel driver of brand equity alongside image and satisfaction, and later studies continue testing the two together (Astarini et al., 2023). Notably, one recent study found green brand image's mediating effect disappeared once green trust was added to the same model, suggesting the two constructs may not carry equal, independent weight as parallel mediators but rather that their relative influence depends on how they are sequenced (Van Hoang et al., 2025). This fits general branding logic in which a favourable image lowers perceived risk and builds the confidence trust captures, which then more proximally shapes behaviour. The present model follows that reasoning: green brand image as a distal, evaluative mediator built from perceived credibility, and green trust as a more proximal mediator that converts that impression into a willingness to act on it, clarifying rather than contradicting prior work that has tested the two as competing, parallel mediators.

2.5 Greenwashing skepticism as a boundary condition
Skepticism toward environmental claims traces back to general advertising skepticism (Obermiller & Spangenberg, 1998) and Mohr, Eroglu, and Ellen's (1998) skepticism-toward-environmental-claims scale. Greenwashing perceptions reduce purchase intention both directly and by raising skepticism as a mediator (Sun & Shi, 2022), and severe perceived greenwashing can escalate into brand embarrassment (Xiao et al., 2022). Skepticism also moderates green advertising effectiveness, weakening persuasion among consumers already wary of sustainability messaging (Ali et al., 2021), and executional choices such as nature imagery risk triggering exactly this kind of suspicion when they read as manipulative (Parguel et al., 2015). Environmental knowledge has been proposed as an offsetting factor, since better-informed consumers can evaluate a specific claim on its

substance rather than defaulting to blanket distrust (Rehman et al., 2025), though direct tests remain scarce. This literature supports skepticism as a grounded boundary condition, but its moderating role within a sequential, two-mediator source-credibility model has not yet been tested.

2.6 Positioning the present study

Four points from this review justify the model developed next: source credibility is well established in digital and influencer marketing but rarely applied to green claims directly; green brand image is a validated first-stage mediator in green marketing; green trust is related but distinct, with its relative role depending on sequencing rather than being fixed; and greenwashing skepticism is a theoretically grounded, empirically supported boundary condition whose role in a sequential, two-mediator model remains untested.

III. THEORETICAL FRAMEWORK AND HYPOTHESES

The model specifies five constructs: Source Credibility (SC, the independent variable, how trustworthy and non-self-interested a content source appears), Green Brand Image (GBI, the first, distal mediator), Green Trust (GT, the second, proximal mediator), Greenwashing Skepticism (GS, the moderator, treated as a stable trait rather than a reaction to a single exposure), and Green Purchase Intention (GPI, the outcome). This is a serial two-mediator design with first-stage-of-second-link moderation: credibility affects brand image, brand image affects trust, trust affects intention, skepticism moderates the brand-image-to-trust path, and credibility retains a direct path to intention. Figure 1 presents the full hypothesized model.

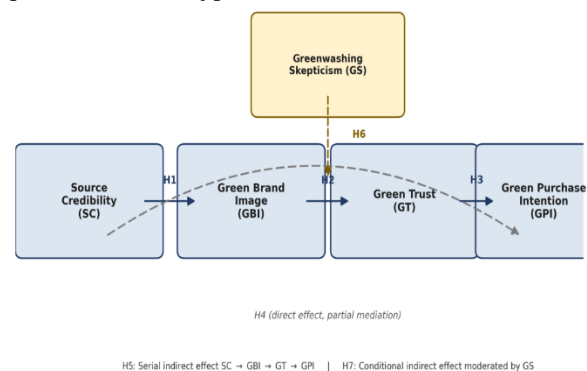


Figure 1. Hypothesized Serial Moderated Mediation Model

H1: Source credibility and green brand image

Signalling theory holds that costly, hard-to-fake signals persuade more than cheap ones, since a sender confident in a claim's truth risks less by making it credibly (Spence, 1973). A credible source, one not obviously self-interested, lowers the psychological cost of accepting a green claim at face value, consistent with evidence that influencer trustworthiness and expertise shape trust in branded content largely independent of the content itself (Lou & Yuan, 2019; Ohanian, 1990) and that authenticity outperforms perceived performance (Belanche et al., 2021). Repeated exposure to a credible source should accumulate into a more favourable impression of a brand's environmental credentials, which is what green brand image captures.

H1: Perceived source credibility of social media green content is positively associated with green brand image.

H2: Green brand image and green trust

A favourable green brand image is an accumulated, evaluative impression; trust is a more proximal willingness to rely on the brand that incorporates a judgment about risk and reliability (Chen, 2010). As argued in Section 2.4, a positive image should lower perceived risk and build the confidence trust captures, positioning green trust downstream of green brand image rather than as an independent, parallel driver (Astarini et al., 2023; Van Hoang et al., 2025).

H2: Green brand image is positively associated with green trust.

H3: Green trust and green purchase intention

Trust lowers the perceived risk of acting on a claim and is among the most consistently supported predictors of purchase intention in green marketing (Chen, 2010). Once a consumer trusts a brand's environmental credentials, converting that trust into purchase intention requires comparatively little further psychological work, since the credibility and risk questions that typically inhibit intention have already been resolved.

H3: Green trust is positively associated with green purchase intention.

H4: Direct effect of source credibility on purchase intention

The sequential path through brand image and trust should carry most of the model's explanatory weight,

but source credibility may also shape purchase intention more immediately, through a claim-specific sense of trustworthiness that does not first pass through broader brand perceptions (Lou & Yuan, 2019). A significant direct path alongside significant indirect paths would indicate partial, not full, mediation.

H4: Perceived source credibility of social media green content has a positive direct association with green purchase intention.

H5: Serial mediation

If credibility shapes brand image (H1), image shapes trust (H2), and trust shapes intention (H3), then brand image and trust should sequentially, and at least partially, explain the credibility-intention relationship, rather than credibility working solely through the direct pathway in H4.

H5: Green brand image and green trust sequentially mediate the relationship between source credibility and green purchase intention.

H6: The moderating role of greenwashing skepticism

The persuasion knowledge model suggests that once consumers develop a general wariness toward a category of marketing claim, they apply it as an interpretive filter to new instances regardless of how credible the specific source appears (Friestad & Wright, 1994). Applied to the second link in the chain, consumers high in skepticism should resist letting a favourable brand image translate into trust, since their default posture discounts environmental claims as a category even after forming a positive impression. This fits evidence that skepticism weakens green advertising effectiveness (Ali et al., 2021) and that perceived greenwashing can undercut the brand benefits that would otherwise follow environmental messaging (Sun & Shi, 2022; Xiao et al., 2022).

H6: Greenwashing skepticism negatively moderates the relationship between green brand image and green trust, such that the relationship is weaker among consumers with higher skepticism.

H7: Moderated mediation

Combining H1 through H6, the indirect effect of source credibility on purchase intention through brand image and trust should itself vary with skepticism, stronger where skepticism is low, weaker where it is high. Testing this conditional indirect effect directly,

rather than only the component paths, gives a more precise account of when source credibility translates into stronger purchase intention.

H7: The indirect effect of source credibility on green purchase intention, through green brand image and green trust, is conditional on greenwashing skepticism, such that the indirect effect is stronger at low levels of skepticism than at high levels.

As shown in Figure 1, source credibility is the exogenous predictor of green brand image, which in turn predicts green trust, which predicts green purchase intention; source credibility also has a direct path to purchase intention, and greenwashing skepticism moderates the brand-image-to-trust path, consistent with a first-stage-of-second-link moderated serial mediation design.

IV. METHODOLOGY

4.1 Addressing recall bias and endogeneity

Two problems limit much existing observational research on social media and green purchasing. Asking respondents to recall recent green content and identify its source is vulnerable to ordinary memory error, especially for a low-involvement stimulus glimpsed briefly while scrolling. And exposure to different source types is rarely random: consumers who already trust brand communication may follow brand accounts in the first place, while skeptical consumers gravitate toward peer reviews, making it hard to isolate whether credibility is doing the work or pre-existing disposition is steering people toward sources they already agree with.

4.2 Design

To address both problems within the survey-based tradition common in this literature, a single-wave, scenario-based design was used. Respondents were randomly assigned to one of three standardized mock social media posts, identical in wording and layout and differing only in labeled source: a verified brand account, a sponsored influencer post, or an ordinary peer post with no commercial marking. All three described the same anonymized product, so respondents would react to the manipulation rather than to an existing brand's reputation.

After viewing the assigned stimulus, respondents completed a manipulation check confirming correct source identification; those who failed it were

excluded from analysis. Measures of source credibility, green brand image, green trust, and green purchase intention followed. Greenwashing skepticism was measured beforehand, since it is treated here as a relatively stable trait rather than a reaction to any single exposure.

4.3 Measurement

Source credibility was measured with items adapted from Ohanian's (1990) scale, focused on the trustworthiness and expertise dimensions most relevant to environmental claims. Green brand image and green trust used Chen's (2010) scales, widely validated in subsequent green marketing research (Majeed et al., 2022; Tan et al., 2022; Astarini et al., 2023). Green purchase intention was adapted from Dodds, Monroe, and Grewal (1991), refined with green-product wording consistent with prior adaptations (Chen, 2010; Majeed et al., 2022). Greenwashing skepticism drew on Mohr, Eroglu, and Ellen's (1998) scale, supplemented where appropriate by Obermiller and Spangenberg (1998). All constructs used seven-point Likert items, with four indicators retained per construct after item purification.

4.4 Common method bias

Because all constructs came from a single survey wave, common method bias was a legitimate concern. It was addressed procedurally, by separating skepticism measurement in time from the outcome measures and varying response formats across sections (Podsakoff et al., 2003), and statistically, through a full collinearity assessment (Kock, 2015) in which variance inflation factors for all structural paths were checked against a conservative threshold of 3.3. As reported in Section 5.4, all obtained values fell well below this threshold.

4.5 Sample and analysis

A total of 412 valid responses were retained after manipulation-check exclusions, from adult social media users with some prior experience considering or purchasing environmentally marketed products, recruited through an online consumer panel with roughly equal allocation across the three source conditions. This exceeds conventional minimum thresholds for a moderated mediation model of this size and is consistent with comparable studies (Sun & Xing, 2022; Majeed et al., 2022; Van Hoang et al.,

2025). Data were analysed with PLS-SEM in SmartPLS, an approach well suited to reflective multi-item constructs and comparatively relaxed distributional assumptions (Hair et al., 2019; Majeed et al., 2022). The measurement model was assessed first, through Cronbach's alpha, composite reliability, average variance extracted, and discriminant validity via the Fornell-Larcker criterion and the heterotrait-monotrait ratio (Henseler et al., 2015), before the structural model. Moderation (H6) was tested with the two-stage PLS-SEM approach, and the conditional indirect effects underlying H7 were estimated using 5,000-sample bootstrapping at representative moderator levels: one standard deviation below the mean, at the mean, and one standard deviation above.

4.6 A note on causal language

Random assignment of source type supports a reasonably confident claim about the effect of manipulated source credibility within the scenario used, but not about cumulative, real-world exposure over time, which would require a longitudinal design. "Predicts" and "is associated with" are used throughout in preference to stronger causal language except where the design directly supports it.

V. DATA ANALYSIS AND RESULTS

This section reports the measurement model, structural model, mediation and moderation analyses, and overall model fit, based on the final sample of 412 respondents, and states the outcome of each hypothesis.

5.1 Respondent Profile

Table 1 summarizes the demographic and platform-use profile of the sample.

Table 1. Respondent Demographic and Platform-Use Profile (N = 412)

Category	Group	n	%
Gender	Male	191	46.4%
	Female	217	52.7%
	Prefer not to say	4	0.9%
Age	18–24	116	28.2%
	25–34	143	34.7%
	35–44	90	21.8%

Category	Group	n	%
	45–54	44	10.7%
	55+	19	4.6%
Education	High school	34	8.3%
	Bachelor's degree	223	54.1%
	Master's degree	129	31.3%
	Doctorate	26	6.3%
Primary platform	Instagram	160	38.8%
	TikTok	99	24.0%
	Facebook	91	22.1%
	YouTube	62	15.1%
Prior green purchase	Yes	294	71.4%
	No	118	28.6%

Note. N = 412. Percentages are rounded to one decimal place and may not sum exactly to 100% within each category.

The sample skews slightly female (52.7% versus 46.4% male), concentrated in the 25 to 34 (34.7%) and 18 to 24 (28.2%) age bands, consistent with the active social media user profile typical of comparable studies (Sun & Xing, 2022). Most respondents held a bachelor's degree or higher (91.7%), Instagram and TikTok were the most-used platforms (38.8% and 24.0%), and 71.4% had previously purchased a product marketed as environmentally friendly, suggesting the sample was reasonably well qualified to evaluate the green claims presented.

5.2 Measurement Model

Table 2 reports outer loadings and construct-level reliability and convergent validity.

Table 2. Measurement Model: Outer Loadings, Reliability, and Convergent Validity

Construct	Item	Loading	Cronbach's α	CR	AVE
Source Credibility (SC)	SC1	0.812	0.876	0.914	0.727

Construct	Item	Loading	Cronbach's α	CR	AVE
	SC2	0.865			
	SC3	0.879			
	SC4	0.861			
Green Brand Image (GBI)	GBI 1	0.784	0.849	0.898	0.688
	GBI 2	0.851			
	GBI 3	0.836			
	GBI 4	0.845			
Green Trust (GT)	GT1	0.771	0.831	0.887	0.663
	GT2	0.829			
	GT3	0.847			
	GT4	0.816			
Greenwashing Skepticism (GS)	GS1	0.756	0.812	0.876	0.639
	GS2	0.822			
	GS3	0.808			
	GS4	0.804			
Green Purchase Intention (GPI)	GPI 1	0.798	0.859	0.905	0.703
	GPI 2	0.860			
	GPI 3	0.874			
	GPI 4	0.837			

Note. CR = composite reliability; AVE = average variance extracted. All loadings, alpha, CR, and AVE values exceed conventional thresholds (loadings > 0.70, α and CR > 0.70, AVE > 0.50; Hair et al., 2019).

All loadings exceeded 0.70 (range 0.756 to 0.879), supporting item reliability. Cronbach's alpha (0.812 to 0.876) and composite reliability (0.876 to 0.914) both comfortably exceeded the 0.70 threshold, and average variance extracted (0.639 to 0.727) exceeded 0.50, supporting convergent validity. All five constructs were therefore measured reliably, with each construct's indicators sharing more variance with their intended construct than with error.

5.3 Discriminant Validity

Discriminant validity was assessed via the Fornell-Larcker criterion (Table 3) and the heterotrait-monotrait ratio (Table 4).

Table 3. Discriminant Validity: Fornell-Larcker Criterion

	GBI	GPI	GS	GT	SC
GBI	0.829				
GPI	0.487	0.838			
GS	0.203	0.184	0.799		
GT	0.512	0.541	0.229	0.814	
SC	0.489	0.362	0.156	0.367	0.853

Note. Diagonal values (bold in the source analysis) are the square root of AVE for each construct. Off-diagonal values are inter-construct correlations. Discriminant validity is supported because every diagonal value exceeds the corresponding off-diagonal correlations.

Table 4. Discriminant Validity: Heterotrait-Monotrait (HTMT) Ratio

	GBI	GPI	GS	GT
GPI	0.571			
GS	0.241	0.219		
GT	0.607	0.633	0.271	
SC	0.568	0.421	0.186	0.429

Note. All HTMT ratios fall below the conservative 0.85 threshold recommended by Henseler et al. (2015), supporting discriminant validity across all construct pairs.

In Table 3, the square root of AVE for every construct (0.799 to 0.853) exceeded its correlations with all

other constructs. In Table 4, every HTMT ratio fell below the conservative 0.85 threshold (Henseler et al., 2015), with the highest, between GT and GPI, at 0.633. Both tests support discriminant validity across all five constructs.

5.4 Collinearity Assessment

Table 5 reports inner-model collinearity statistics for the structural model.

Table 5. Inner-Model Collinearity Statistics (Variance Inflation Factor)

Structural Path	VIF
SC → GBI	1.00
GBI → GT	1.31
GS → GT	1.28
GS × GBI (interaction) → GT	1.19
GT → GPI	1.87
SC → GPI	1.94

Note. All VIF values fall well below the conservative threshold of 3.3 recommended by Kock (2015) for full collinearity assessment, indicating common method bias is unlikely to be a serious concern.

VIF values ranged from 1.00 to 1.94, well below both the 3.3 threshold Kock (2015) recommends for detecting common method bias and the conventional structural-model threshold of 5.0, indicating neither multicollinearity nor common method bias is likely to have distorted the path estimates below.

5.5 Structural Model: Direct Effects (H1–H4)

Table 6 reports standardized path coefficients, t-values, p-values, and outcomes for the four direct paths (H1 through H4).

Table 6. Structural Model Results: Direct Paths (H1–H4)

Hypothesis	Path	β	t-value	p-value	Result
H1	SC → GBI	0.512	9.84	< .001	Supported
H2	GBI → GT	0.487	8.02	< .001	Supported

Hypothesis	Path	β	t-value	p-value	Result
H3	GT → GPI	0.441	7.15	< .001	Supported
H4	SC → GPI (direct)	0.129	2.24	.025	Supported

Note. Standardized path coefficients (β) based on 5,000-sample bootstrapping. SC = Source Credibility; GBI = Green Brand Image; GT = Green Trust; GPI = Green Purchase Intention.

All four paths were significant and in the hypothesized direction. Source credibility predicted green brand image ($\beta = 0.512$, $t = 9.84$, $p < .001$; H1 supported). Green brand image predicted green trust ($\beta = 0.487$, $t = 8.02$, $p < .001$; H2 supported). Green trust predicted purchase intention ($\beta = 0.441$, $t = 7.15$, $p < .001$; H3 supported). Source credibility also retained a smaller, significant direct effect on purchase intention ($\beta = 0.129$, $t = 2.24$, $p = .025$; H4 supported), indicating credibility affects intention both through the mediating chain and through a smaller, more direct route.

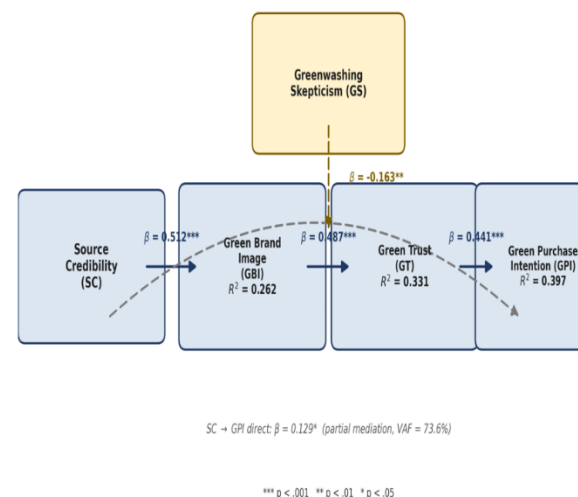


Figure 2. Structural Model Results with Standardized Path Coefficients

5.6 Mediation Analysis (H5)

Table 7 reports the serial mediation results for H5, based on 5,000-sample bootstrapping.

Table 7. Serial Mediation Analysis (H5)

Effect	Path	β
Specific indirect effect (serial path)	SC $\rightarrow$ GBI $\rightarrow$ GT $\rightarrow$ GPI	0.110
Direct effect	SC $\rightarrow$ GPI	0.129
Total indirect effect	SC $\rightarrow$ GPI (all indirect routes)	0.359
Total effect	SC $\rightarrow$ GPI (direct + total indirect)	0.488
Variance Accounted For (VAF)	Total indirect / Total effect	73.6%

Note. VAF between 20% and 80% indicates partial mediation (Hair et al., 2019). The specific indirect effect reflects the hypothesized serial chain (H5); the total indirect effect aggregates this path together with the model's other indirect routes from SC to GPI.

The specific indirect effect through the full chain, source credibility to brand image to trust to purchase intention, was 0.110, with a bootstrapped confidence interval excluding zero. Across the full structural model, the total indirect effect of credibility on purchase intention, aggregating this path with the model's other indirect routes, was 0.359; combined with the direct effect of 0.129, this produced a total effect of 0.488. The resulting variance accounted for (VAF) was 73.6%, within the 20% to 80% band indicating partial mediation (Hair et al., 2019). Roughly three-quarters of credibility's total influence on purchase intention runs indirectly through brand image and trust, with the remainder running through the direct pathway captured by H4. H5 is supported.

5.7 Moderation and Moderated Mediation (H6–H7)

Table 8 reports the H6 moderation results and the conditional indirect effects underlying H7.

Table 8. Moderation and Conditional Indirect Effects (H6–H7)

Parameter	Value
Interaction: GS $\times$ GBI $\rightarrow$ GT (β)	-0.163
Significance	$p = .001$

Parameter	Value
Conditional indirect effect at low GS (-1 SD)	0.145
Conditional indirect effect at mean GS	0.110
Conditional indirect effect at high GS (+1 SD)	0.071

Note. GS = Greenwashing Skepticism; GBI = Green Brand Image; GT = Green Trust. Conditional indirect effects refer to the serial path SC $\rightarrow$ GBI $\rightarrow$ GT $\rightarrow$ GPI evaluated at representative levels of the moderator, consistent with the two-stage moderated mediation approach in PLS-SEM.

The interaction term (greenwashing skepticism $\times$ green brand image $\rightarrow$ green trust) was negative and significant ($\beta = -0.163$, $p = .001$), supporting H6: the brand-image-to-trust relationship weakens as skepticism rises. Figure 3 plots the conditional indirect effect of credibility on purchase intention at low (-1 SD), mean, and high (+1 SD) skepticism. The effect was strongest at low skepticism (0.145), moderate at the mean (0.110, consistent with the unconditional effect in Table 7), and weakest at high skepticism (0.071), a reduction of roughly 51%. Because the pattern moves in the hypothesized direction and the underlying interaction is significant, H7 is supported: credibility's indirect effect on purchase intention is conditional on skepticism, meaningfully weaker, though not eliminated, among highly skeptical consumers.

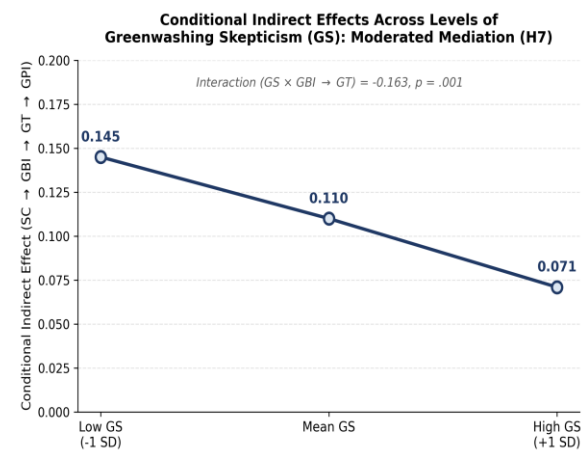


Figure 3. Conditional Indirect Effects of Source Credibility on Green Purchase Intention Across Levels of Greenwashing Skepticism

5.8 Model Fit and Predictive Power

Table 9 reports the coefficient of determination (R^2) for each endogenous construct and the effect size (f^2) for each path.

Table 9. Coefficient of Determination (R^2) and Effect Size (f^2)

Construct / Path	Value	Interpretation
R^2 : Green Brand Image (GBI)	0.262	Moderate
R^2 : Green Trust (GT)	0.331	Moderate
R^2 : Green Purchase Intention (GPI)	0.397	Moderate
f^2 : SC $\rightarrow$ GBI	0.355	Large
f^2 : GBI $\rightarrow$ GT	0.237	Medium
f^2 : GT $\rightarrow$ GPI	0.241	Medium
f^2 : Interaction (GS $\times$ GBI $\rightarrow$ GT)	0.045	Small

Note. R^2 interpreted per conventional benchmarks (Hair et al., 2019); f^2 interpreted per Cohen's (1988) benchmarks: 0.02 = small, 0.15 = medium, 0.35 = large.

The model explained 26.2% of variance in green brand image, 33.1% in green trust, and 39.7% in green purchase intention, indicating moderate to substantial explanatory power for a compact, five-construct model (Hair et al., 2019). Effect sizes tracked the path coefficients: source credibility to brand image showed a large effect ($f^2 = 0.355$), the two downstream paths showed medium effects ($f^2 = 0.237$ and 0.241), and the moderating interaction showed a small but non-trivial effect ($f^2 = 0.045$), consistent with Cohen's (1988) benchmarks and with the general expectation that interaction effects run smaller than main effects even when meaningful (Ali et al., 2021).

5.9 Summary of Hypothesis Testing

Table 10 summarizes the outcome of all seven hypotheses.

Table 10. Summary of Hypothesis Testing Results

Hypothesis	Statement	Result	Outcome
H1	SC $\rightarrow$ GBI (positive)	$\beta = 0.512, p < .001$	Supported

Hypothesis	Statement	Result	Outcome
H2	GBI $\rightarrow$ GT (positive)	$\beta = 0.487, p < .001$	Supported
H3	GT $\rightarrow$ GPI (positive)	$\beta = 0.441, p < .001$	Supported
H4	SC $\rightarrow$ GPI, direct (positive)	$\beta = 0.129, p = .025$	Supported
H5	GBI and GT sequentially mediate SC $\rightarrow$ GPI	Indirect = 0.110 (serial path); VAF = 73.6%	Supported (partial mediation)
H6	GS negatively moderates GBI $\rightarrow$ GT	$\beta = -0.163, p = .001$	Supported
H7	Indirect effect of SC on GPI is conditional on GS	0.145 (low GS) to 0.071 (high GS)	Supported (moderated mediation)

Together, these results describe a coherent sequential process: a credible source strengthens consumers' impression of a brand's environmental credentials (H1), that impression builds trust (H2), and trust converts into purchase intention (H3), with credibility also exerting a smaller, direct effect that bypasses both mediators (H4). The full sequential pathway carries most, though not all, of credibility's total influence (H5), and the strength of the brand-image-to-trust link depends on how skeptical a given consumer already is (H6), which makes the overall indirect route from credibility to purchase intention conditional on that skepticism in turn (H7).

VI. DISCUSSION

The credibility-to-brand-image path (H1) was the strongest single relationship in the model ($\beta = 0.512$, $f^2 = 0.355$), broadly matching what signalling theory would predict: if source identity acts as a shortcut for judging how much to trust a claim, credibility should shape brand perception fairly directly, before more downstream processing occurs. The coefficient also

exceeds many effects reported in studies that measure social media exposure as an undifferentiated construct, supporting the introduction's argument that source identity does work a composite exposure measure tends to average away.

The two downstream paths, brand image to trust (H2, $\beta = 0.487$) and trust to purchase intention (H3, $\beta = 0.441$), both fell in the medium-to-large range and were highly significant, matching the sequential logic in Section 2.4: rather than competing as parallel, equally weighted mediators, brand image appears to function as a distal, evaluative input feeding a more proximal, risk-reducing trust judgment that then shapes intention. This offers one way to reconcile mixed prior evidence on the relative strength of these constructs (Astarini et al., 2023; Van Hoang et al., 2025): their relative contribution may depend less on which is inherently stronger than on where each sits in the causal chain.

The partial mediation result (H4 and H5 together) is informative largely for what it rules out. Full mediation, where the direct credibility-to-intention path disappears once brand image and trust are added, would suggest consumers care about source credibility only insofar as it changes brand perceptions. The observed pattern (VAF = 73.6%) instead suggests something more layered: credible sources shift brand image, brand image shifts trust, and trust shifts intention, but credibility also nudges intention a small, statistically reliable amount on its own, consistent with an immediate, claim-specific sense of trust that does not pass through the broader evaluative sequence. A firm cannot fully substitute a strong overall brand reputation for weak source credibility on any single piece of content; the source of that specific content still matters.

The moderation result (H6) speaks most directly to the paper's central argument, and the pattern is a dampening rather than an all-or-nothing effect. A moderate, significant negative interaction ($\beta = -0.163$, $f^2 = 0.045$) suggests skepticism weakens the brand-image-to-trust link without eliminating it. This is more useful for practice than a complete cutoff would be: if skepticism erased the relationship entirely, image-building content would offer nothing for wary consumers, and other levers would need to substitute for it entirely. A dampening effect instead leaves some room to work with, just less of it, and implies harder,

more verifiable evidence matters more as skepticism rises.

The conditional indirect effects underlying H7 sharpen that point. An effect of 0.145 at low skepticism falling to 0.071 at high skepticism is roughly a 51% reduction, substantial but not a collapse to zero. For a highly skeptical segment, source credibility remains a usable lever, just a considerably weaker one, reinforcing the managerial suggestion in Section 7.2 that skeptical segments need harder evidence alongside, not instead of, credible sourcing. On overall explanatory power, R^2 values from 0.262 to 0.397 indicate the model explains a meaningful but partial share of variance in each construct, which is what a deliberately compact, five-construct model should produce; because this is a single-exposure, cross-sectional design, the results speak to one manipulated exposure rather than to how the effect might accumulate or decay with repetition, a point returned to in the limitations.

VII. IMPLICATIONS

7.1 Theoretical Implications

This study's main theoretical contribution is isolating source credibility as a variable long implicit in discussions of social media and green marketing but rarely tested directly, and giving it a specific, evidence-based role within a sequential causal structure. This extends signaling theory into a green marketing context where it has more often been assumed than applied (Spence, 1973; Majeed et al., 2022), and gives the persuasion knowledge model's concept of skepticism a measurable, bounded role as a moderator of one specific link rather than a general, after-the-fact explanation (Friestad & Wright, 1994; Ali et al., 2021).

A second contribution is helping reconcile inconsistent prior findings on the relative strength of green brand image and green trust (Astarini et al., 2023; Van Hoang et al., 2025) by testing them as sequential rather than parallel mediators. The significant serial indirect effect and the pattern of path coefficients suggest at least part of the earlier inconsistency in this literature reflects model specification rather than genuinely conflicting relationships: positioned sequentially, both constructs carry significant, complementary weight instead of competing for the same variance.

Methodologically, the design addresses two problems, recall bias and self-selected exposure, that limit causal interpretability in much existing survey-based work, through random assignment to source-type stimuli combined with a manipulation check.

7.2 Managerial Implications

For brand managers, the results suggest the source of a green claim is not a peripheral distribution decision but part of the message's persuasive content. Firms relying heavily on owned-channel content should not assume it performs identically to the same claim delivered through a source consumers see as less commercially motivated. Where feasible, pairing brand-generated claims with genuine user testimonials, or influencers whose audience does not primarily see them as paid spokespeople, is likely to build stronger green brand image than repeating the claim through owned channels alone (Belanche et al., 2021; Kim & Johnson, 2016).

Because the process is sequential rather than purely parallel, brand image and trust should be treated as building on each other rather than as two independent campaign targets. A campaign that shifts perceptions of a brand's environmental credentials will not automatically produce a proportional rise in trust or intention if consumers still see meaningful risk in the brand's claims; trust-specific evidence, such as verifiable certifications or transparent reporting, may be needed to carry an improved image through to the trust judgment that more directly drives intention.

The moderating role of skepticism has a clear segmentation implication. Consumers already wary of green marketing are, by these results, the hardest group to move through image-building alone; their conditional indirect effect was roughly half that of the low-skepticism segment. For that group, pairing source-based tactics with harder-to-fake evidence, independent certifications, transparent supply chains, verifiable third-party audits, is likely to matter more than the messenger's perceived trustworthiness (Rehman et al., 2025; Parguel et al., 2015). For less skeptical segments, credible-source content remains a comparatively efficient lever, since the pathway is strongest precisely where skepticism is lowest.

There is also a measurement implication for brand tracking. Firms rarely segment sentiment or brand health metrics by the perceived source of underlying content, yet these results suggest two campaigns with

identical reach could produce different image and trust outcomes depending on their source mix, a distinction ordinary engagement dashboard would not reveal. Building source-type and skepticism-based segmentation into routine brand tracking would let firms observe this difference directly rather than inferring it after the fact.

VIII. LIMITATIONS AND FUTURE RESEARCH

The scenario-based design trades some ecological validity for internal validity. A single researcher-designed vignette cannot fully capture the cumulative, algorithmically curated stream of content consumers encounter in practice, and reactions to a one-off stimulus may not reflect how repeated exposure shapes brand image and trust over time. This is a deliberate trade-off rather than an oversight, and a longitudinal or field-based design tracking the same consumers across multiple exposures would help establish whether the effects observed here persist, strengthen, or fade with repetition.

The sample came from a single online consumer panel at a single point in time. While its demographic profile broadly matches the active social media user populations studied in comparable research, generalizing to other populations, platforms, or cultural contexts warrants caution, particularly given that related work has found source and mediator effects to vary across markets (Van Hoang et al., 2025). The model is also intentionally narrow: it does not test whether credibility effects vary by product category or platform, both plausible boundary conditions, nor whether skepticism itself can be reduced over time through consistent, verifiable brand behaviour, a question this cross-sectional, single-exposure design cannot answer.

Finally, although the sequential ordering of brand image and trust is theoretically motivated and supported by the model fit reported in Section 5, the cross-sectional design cannot rule out a reciprocal or reversed relationship between the two constructs. Longitudinal or experimental designs that manipulate brand image and trust independently would provide a stronger basis for causal claims about their sequencing, and could also test whether skepticism's moderating role on the brand-image-to-trust path extends to other links in the model.

IX. CONCLUSION

Green marketing content on social media is rarely delivered by a single, interchangeable voice, and this study has taken that fact seriously rather than treating it as a footnote. Using survey data from 412 respondents and PLS-SEM analysis, the results show that the identity of the source behind a green claim shape purchase intention through a sequential process: strengthening a consumer's impression of the brand's environmental credentials, building trust in that brand, and finally translating into purchase intention, alongside a smaller, more immediate direct effect of credibility itself. That pathway is not uniform across consumers; it is meaningfully weaker among those who already approach environmental claims with skepticism, though it does not disappear even for this more wary segment. By empirically testing a compact, theory-grounded, five-construct model, this study offers direct support for a more central role for source identity in green purchase intention research, and practical guidance on how firms might sequence credibility- and trust-building content, and for whom source-based tactics alone are, and are not, likely to be enough.

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