

Cognitive trust and affective impulsiveness: a dual-pathway model of green logistics adoption in Vietnam

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Abstract

Purpose – This study investigates the dual-pathway effects of external marketing stimuli (green advertising, green brand image) and multidimensional green consumption values on consumer purchase intention and willingness to pay a premium for green logistics services in Vietnam.

Design/methodology/approach – Drawing on the stimulus-organism-response (S-O-R) paradigm and the theory of consumption values, this quantitative research utilized a survey methodology. Data were collected from 303 Vietnamese consumers with relevant e-commerce experience. The hypothesized structural relationships and dual-pathway mediation effects were estimated and analyzed using path analysis alongside a bootstrapping procedure.

Findings – The empirical results support all proposed hypotheses. Green advertising, green brand image and all five dimensions of green consumption value (functional, social, emotional, epistemic and conditional) exert a significant positive impact on both consumer trust and customer impulsiveness. Subsequently, these cognitive (trust) and affective (impulsiveness) mediating states significantly enhancing both the intention to purchase and the willingness to pay a premium for sustainable logistics solutions.

Originality/value – This research provides an extension of S-O-R framework and theory of consumption values theory by integrating cognitive and affective decision-making pathways to explain sustainable consumption in the under-researched context of intangible green logistics. Furthermore, it uniquely extends the theory of consumption values to the rapidly emerging Vietnamese e-commerce sector, demonstrating that consumer willingness to absorb green premiums is driven by both deliberate trust and spontaneous emotional responses.

Keywords Green logistics, Green value consumption, Impulsiveness, Trust, Green brand image, Green advertising

Paper type Research article

Introduction

Vietnam is currently experiencing a digital retail boom, recognized as one of the fastest-growing e-commerce markets globally. Driven by high Internet penetration, a young demographic, and accelerated digital adoption post-COVID-19, the Vietnamese e-commerce market is projected to reach substantial valuations by the end of 2025. However, this explosive growth has precipitated severe environmental externalities. The sheer volume of last-mile deliveries has placed immense pressure on urban freight traffic, leading to surging carbon emissions, traffic congestion and a crisis of non-biodegradable packaging waste (Tran *et al.*, 2025).

To mitigate these impacts and align with the Vietnamese government's commitments to environmental sustainability (including Net Zero, 2050 targets), the integration of "green logistics" has transitioned from a niche concept to a strategic imperative (Bui Duc and Wang, 2024). Green logistics encompasses sustainable supply chain activities designed to minimize ecological footprints, such as utilizing carbon-neutral shipping, optimized electric vehicle

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(EV) routing, automated delivery stations (smart lockers) and biodegradable packaging (Blanco and Sheffi, 2024). According to industry analyses, transitioning to green logistics is now critical for e-commerce platforms and retailers to differentiate themselves, build brand reputation and future-proof of their operations against tightening environmental regulations (Ju *et al.*, 2023).

Despite the acknowledged importance of sustainable supply chains, the actual adoption of green logistics in Vietnam remains nascent and highly fragmented (Tran *et al.*, 2025). This highlights several critical research and practical gaps that your study urgently addresses.

First, according to market surveys, such as those by Rakuten Insight (2024), frequently report that a vast majority (upwards of 72%–80%) of Vietnamese consumers express a willingness to use sustainable products. Furthermore, recent empirical studies on urban Vietnamese consumers highlight a clear link between environmental awareness and the intention to purchase green products. These findings consistently show that when evaluating goods and services, a significant majority of these consumers actively prioritize eco-friendly alternatives (Nguyen-Viet, 2023). However, there is a profound disconnect between this stated environmental awareness and actual purchasing behavior at the e-commerce checkout, a phenomenon widely documented as the green attitude-behavior gap (Nguyen, 2025; Nguyen *et al.*, 2019). In reality, Vietnamese consumers remain highly price-sensitive and habitually expect fast, free delivery (Duy and Nguyen, 2026). Because green logistics solutions (such as biodegradable bagasse packaging instead of standard plastic) often incur a premium cost (sometimes 3 to 5 times higher), consumers frequently abandon their sustainable intentions at the point of sale. There is an urgent need to understand the precise psychological mechanisms that can successfully bridge this attitude-behavior gap and motivate consumers to absorb these premium costs.

Second, most existing sustainable consumption research in Vietnam focuses on tangible eco-friendly goods, for example, organic food (Le and Nguyen, 2022) or energy-efficient appliances (Nguyen and Nguyen-Ngoc, 2025), where the consumer can physically interact with the product's green value. Conversely, green logistics are inherently intangible "credence attributes" (Inès *et al.*, 2023). A consumer cannot directly observe a delivery truck's optimized routing or verify an e-commerce platform's carbon offset purchases. This intangibility creates massive information asymmetry and consumer skepticism regarding corporate "greenwashing" (Chen and Chang, 2012). As a result, there is a need to address a critical gap by examining how external marketing signals (green advertising and brand image) cultivate the trust required to overcome this skepticism (Isac *et al.*, 2025).

Third, the limited academic literature addressing green supply chains in Vietnam has approached the issue from a firm-side, operational perspective, which includes analyzing financial constraints (Do *et al.*, 2023), lack of government support (Dung and Ngoc, 2025) or technological readiness among SMEs (Nga and Thanh, 2025) or relied heavily on rational-choice consumer models like the theory of planned behavior (Hoang *et al.*, 2026; Ngo *et al.*, 2025). These models conceptualize green purchasing as a slow, deliberate and highly cognitive process (Ajzen, 1991). However, modern e-commerce checkouts are fast-paced and highly stimulating environments (Luna Sanchez, 2024). There is a distinct theoretical gap regarding the role of affective and spontaneous decision-making. Therefore, this study suggests that beside the cognitive evaluation of the product and company through trust, customer decision will also depend on the affective-based mechanism though impulsiveness. Thus, focusing on "impulsiveness" would introduce a novel, highly necessary perspective: how multidimensional green values and targeted advertising trigger sudden, emotionally driven pro-environmental choices that bypass rational price-sensitivity (Sharma *et al.*, 2024).

To address these gaps, the aim of this research is to evaluate how green advertising, green brand image (representing for company image) and multidimensional green consumption values (representing for characteristics of the service) impact consumer purchase intention and willingness to pay a premium for green logistics services in Vietnam. To achieve this solution, the study employed a quantitative research method utilizing a structured survey approach.

Data were collected from an eligible sample of 303 Vietnamese consumers with recent e-commerce experience and subsequently analyzed using bootstrapping to test mediation modeling to rigorously test the hypothesized dual-pathway relationships.

Based on the findings, this research provides distinct contributions to the existing body of knowledge. First, this study provides a comprehensive framework of several factors that can impact customer behaviors, from both company aspect (green advertisement and green brand image) and service aspect (green values). Consequently, these insights equip managers with a holistic understanding of the psychological drivers behind consumer decision-making, providing a solid foundation for actionable strategic recommendations. Second, the theoretical contribution is the advancement of the stimulus-organism-response (S-O-R) paradigm (Mehrabian and Russell, 1974) into a comprehensive dual-pathway model, demonstrating that sustainable logistics adoption relies concurrently on rational trust and affective impulsiveness, effectively bridging the divide between traditional studies and modern impulsive buying behaviors. Third, the empirical contribution is providing highly contextualized, up-to-date evidence from Vietnam's booming e-commerce market, revealing the specific psychological mechanisms that motivate consumers to absorb green premiums amidst intense market competition.

The remainder of this paper is structured as follows. Section 2 reviews the theoretical background and develops the research hypotheses. Section 3 details the research methodology, including sampling and measurement instruments. Section 4 presents the data analysis and empirical results. Finally, Section 5 discusses the theoretical and managerial implications, acknowledges the study's limitations and suggests avenues for future research.

Literature review

Stimulus–organism–response (S-O-R) theory

The S-O-R model, introduced by Mehrabian and Russell (1974), originates in psychology and explains how external cues (stimuli) shape behavioral outcomes (responses) through individuals' internal psychological processing (organism). In sustainability and service research, S-O-R is useful because it specifies why certain service or communication cues translate into willingness to act, positioning cognitive and affective evaluations as the mechanism linking context to behavior. Recent studies have applied S-O-R to pro-environmental decisions by showing that message framing or personal dispositions (S) influence attitudes, perceived facilitators or inhibitors and value perceptions (O), which then predict intentions and buying behavior (R) (e.g. Chi et al., 2024; Tandon et al., 2021). Building on this logic, the present study employs the S-O-R framework to examine what drives customers' willingness to pay a premium for sustainable instant delivery by electric vehicles (EVs).

In this study, the stimulus (S) component captures key drivers stemming from both consumers' sustainability orientation and firms' green marketing signals in the context of EV-based instant delivery. Because the focal decision is not merely whether to use instant delivery, but whether to pay an additional premium for a low-emission, time-sensitive option, the stimuli should reflect factors that shape the perceived legitimacy and desirability of the green premium. Accordingly, this study specifies environmental concern, company green advertisement, green brand image, trust and urge to buy impulsively as core stimuli. Environmental concern represents a consumer-level predisposition that increases sensitivity to environmental benefits and motivates pro-environmental choices. Company green advertisement functions as an external informational cue that can increase the salience of environmental claims and communicate the firm's sustainability commitment. Green brand image reflects consumers' aggregated perceptions of the company as environmentally responsible, which can strengthen favorable evaluations of EV delivery. Trust is particularly central in-service settings because customers must rely on the provider's claims and performance; higher trust can reduce skepticism about green claims and uncertainty about

service outcomes. Finally, urge to buy impulsively captures the time-pressured and affect-driven nature of instant delivery decisions, potentially amplifying the weight of immediate gratification and shaping how consumers process green cues under urgency.

The organism (O) represents the internal psychological state through which these stimuli influence behavior. A suitable organismic construct is the perceived value of sustainable instant delivery, reflecting customers' overall evaluation of EV-based instant delivery relative to its additional cost.

Finally, the response (R) is operationalized as willingness to pay a premium (WPP) for sustainable instant delivery by EVs. Compared with generic purchase intention, WPP is a more behavior-proximal outcome because it directly captures customers' readiness to accept a higher fee for the joint bundle of instant service and reduced environmental impact, making it well suited for examining green premium decisions in last-mile delivery contexts.

Hypothesis development

Green advertisement impacts trust and impulsiveness. As shown in Figure 1, green advertisement highlights the environmental sustainability of a product or service (Iyer and Banerjee, 1993). Grounded in signaling theory, consumer transactions are frequently characterized by information asymmetry, prompting buyers to depend on external cues to evaluate the underlying value of a product (Shahid et al., 2024). In this context, green advertising acts as a critical signaling mechanism, conveying both the ecological attributes of a product (such as resource efficiency and environmental protection) and the broader sustainable commitments of the organization (Khandelwal and Singh, 2023). As consumers process the information embedded within these environmental advertisements, they develop specific perceptions and judgments that ultimately shape their attitudes and purchasing intentions toward eco-friendly goods (Santa and Drews, 2023). Consequently, green advertisement functions as the foundational catalyst for all subsequent cognitive and behavioral outcomes (Bailey et al., 2016).

In the contemporary marketplace, where environmental claims are ubiquitous and often difficult to verify, consumer trust has emerged as a critical mechanism for reducing transaction-related uncertainty. Trust is fundamentally conceptualized as a consumer's willingness to rely on an exchange partner in whom they have confidence regarding their reliability, integrity and benevolence (Morgan and Hunt, 1994). Within the domain of

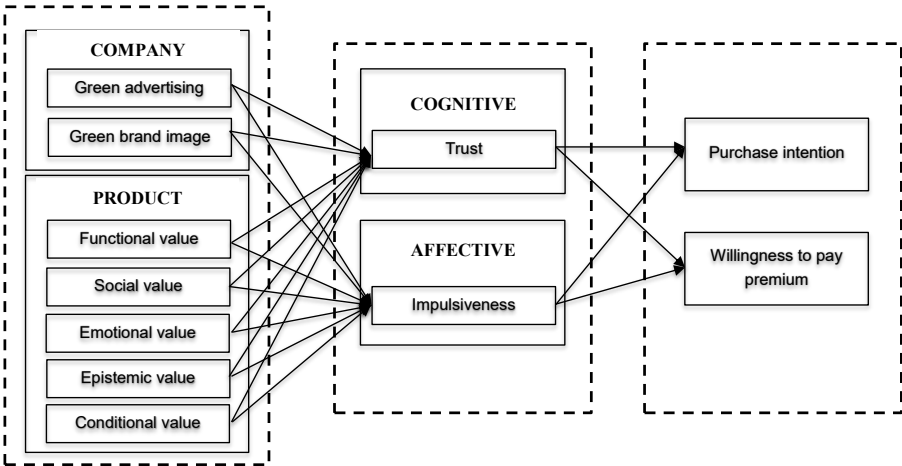


Figure 1. Hypothesized model. Developed by the authors

sustainable consumption, “green trust” specifically refers to a consumer’s willingness to depend on a product, service or brand based on the belief or expectation resulting from its credibility, benevolence and environmental capability (Chen, 2010).

Although green logistics generally possess a strong reputation that enhances the consumer experience, buyers often struggle to verify their actual quality and underlying serving methods. This opacity frequently breeds consumer skepticism, leading to significant transactional and communicative frictions between buyers and sellers (Ki and Kim, 2022). To mitigate this information asymmetry, “trusted signals”, such as official green or organic certifications, serve a vital function. Because the financial and legal penalties for violating certification standards are substantial, certified firms are compelled to maintain strict service quality to ensure market survival. Consequently, these signals effectively differentiate high-quality producers from their lower-quality counterparts, reinforcing the credibility and efficacy of the signal itself (Atkinson and Rosenthal, 2014), thus increase trust of customers.

H1a. Green advertisement positively impacts consumer trust.

While sustainable consumption is frequently conceptualized as a deliberate and highly rational decision-making process, emerging perspectives in consumer psychology suggest that green marketing cues can also trigger spontaneous, unplanned purchasing behaviors. Drawing upon the SOR paradigm (Mehrabian and Russell, 1974), green advertising acts as a potent environmental stimulus (S) that elicits specific affective and cognitive states within the consumer (O), which subsequently drive behavioral responses (R), such as impulsive buying.

Green advertising typically employs vivid imagery, emotional storytelling and urgent ecological appeals designed to evoke strong affective reactions, such as empathy, moral elevation or a sense of environmental responsibility (Septianto *et al.*, 2021). According to foundational literature on impulsive consumption, affective arousal is a primary catalyst for the sudden, compelling urge to purchase (Beatty and Ferrell, 1998; Rook, 1987). When consumers are exposed to compelling green advertisements, the emotional resonance of the message can temporarily override extensive cognitive deliberation.

Furthermore, this affective arousal is often compounded by the intrinsic psychological satisfaction and moral pride derived from engaging in prosocial or pro-environmental behavior, as known as the warm-low effect (Andreoni, 1990). When an advertisement effectively frames a product as an immediate solution to an environmental issue, the anticipation of this moral satisfaction acts as a cognitive heuristic. It reduces the perceived risk of the purchase and diminishes the friction of price sensitivity, thereby accelerating the decision-making process. Consumers may experience a spontaneous desire to reward themselves or express their ethical identity in the moment, bypassing traditional, prolonged evaluation phases (Pancer *et al.*, 2017).

Consequently, because green advertising successfully elevates emotional arousal and leverages the immediate gratification of moral licensing, it is highly capable of transforming a standard shopping experience into an opportunity for spontaneous, environmentally driven consumption. Therefore, the following hypothesis is proposed:

H1b. Green advertising has a significant positive impact on customer impulsiveness.

Green brand image impacts trust and impulsiveness. From Figure 1, green brand image, conceptualized as a set of environmental commitments and sustainable associations anchored in a consumer’s memory (Chen, 2010), functions as a powerful heuristic in the consumer decision-making process. While impulse buying is traditionally characterized by a sudden, hedonically driven urge that lacks extensive cognitive deliberation (Rook, 1987), integrating prosocial and environmental brand attributes can significantly facilitate this spontaneous behavior by altering the consumer’s psychological risk assessment.

A robust green brand image serves as a powerful antecedent to trust. Rooted in signaling theory, an established green brand image acts as a credible, market-based signal that communicates the firm’s genuine commitment to ecological sustainability. Because

consumers face significant information asymmetry regarding the actual environmental impact of corporate operations and product supply chains, they rely heavily on brand image as a heuristic to assess corporate integrity (Leonidou *et al.*, 2013). When a brand consistently projects an image of environmental stewardship, it signals organizational benevolence, suggesting that the company prioritizes societal and ecological well-being alongside financial profitability.

Furthermore, cultivating a strong green brand image requires substantial, observable investments in sustainable practices, which inherently increases the perceived cost of deceptive marketing or “greenwashing.” Consequently, consumers perceive brands with a well-established green image as highly credible and less likely to engage in opportunistic behavior. Empirical evidence strongly supports this theoretical alignment; foundational research demonstrates that a positive green brand image significantly mitigates perceived risks and directly cultivates green trust among consumers (Chen, 2010). By consistently delivering on environmental promises, a brand fosters a psychological climate of safety and reliability, allowing consumers to confidently engage in transactions without the fear of environmental exploitation. Therefore, the following hypothesis is proposed:

H2a. Green brand image has a significant positive impact on consumer trust.

As shown in Figure 1, a strong green brand image engenders a positive “halo effect” that elevates affective arousal, a critical precursor to unplanned purchases. The intrinsic psychological satisfaction, or “warm-glow,” derived from supporting a sustainable enterprise fosters positive emotional states that reduce price sensitivity and expedite the purchase decision (Andreoni, 1990). Consequently, because a green brand image simultaneously stimulates positive emotional arousal and diminishes the guilt typically associated with unplanned spending, it creates an optimal psychological environment for spontaneous consumption. Thus, the following hypothesis is proposed:

H2b. Green brand image has a significant positive impact on customer impulsiveness.

Green consumption values impact trust and impulsiveness. According to Sheth *et al.* (1991), green consumption value encompasses five distinct dimensions: functional, social, emotional, epistemic and conditional values. When consumers evaluate eco-friendly products, these combined values serve as critical antecedents to risk reduction and trust formation (Sirdeshmukh *et al.*, 2002).

In the e-commerce and supply chain sectors, green logistics services (such as carbon-neutral shipping, electric vehicle routing and eco-friendly packaging) are inherently intangible. Because consumers cannot physically observe or verify the environmental impact of the delivery process, they face a high degree of information asymmetry and risk regarding potential “greenwashing” (Chen, 2010). Consequently, establishing consumer trust is a critical prerequisite for the continued adoption of these services. To effectively cultivate this trust, a logistics provider must deliver comprehensive and perceivable value to the consumer. Drawing upon the theory of consumption values (Sheth *et al.*, 1991), the perception of green value is a multidimensional construct that significantly mitigates perceived transaction risks and fosters cognitive and affective trust (Sirdeshmukh *et al.*, 2002).

When consumers evaluate a green logistics service, trust is built through the simultaneous fulfillment of five distinct value dimensions. Functional value represents the baseline requirement; if a service can guarantee reliable tracking, timely delivery and intact packages without imposing an unreasonable price premium, it demonstrates the provider’s operational competence, forming the foundation of cognitive trust.

Additionally, consumers frequently use sustainable choices to signal their ethical identity. When green logistics services provide shareable digital certifications or highly visible eco-packaging, they deliver social value by enhancing the consumer’s self-concept, which proves the provider’s alignment with the consumer’s personal values and strengthens relational trust.

Beyond cognitive evaluations, choosing an eco-friendly shipping option often elicits a psychological “warm-glow,” providing consumers with the immediate affective satisfaction of participating in environmental conservation. When a logistics service effectively facilitates this emotional value, it fosters a deep, affective bond and psychological reliance on the provider.

Furthermore, the relevance of green logistics often peaks under specific situational contexts, such as during heavily promoted environmental campaigns. By offering timely and contextually relevant sustainable solutions, the provider demonstrates responsiveness and benevolence, fulfilling the conditional value.

Finally, the intangibility of green logistics makes transparency vital. By offering epistemic value through detailed carbon footprint calculators or transparent supply chain mapping, providers satisfy the consumer’s need for knowledge, directly countering skepticism and validating the firm’s environmental claims (Lin and Huang, 2012). Therefore, the following hypothesis is proposed:

H3a–7a. Green consumption values have a significant positive impact on customer trust, such that functional value (H3a), social (H4a), emotional (H5a), epistemic (H6a) and conditional values (H7a) positively associate with consumer trust.

When a consumer is presented with a green logistics option, the immediate perception of comprehensive value can act as a potent psychological catalyst, overriding extensive cognitive deliberation and triggering an impulsive selection. This phenomenon is driven by the simultaneous fulfillment of five distinct value dimensions:

First, functional value reduces the cognitive friction required to make the impulse decision. When a green logistics service clearly communicates efficiency, reliability and a minimal or justified price premium, it removes the utilitarian barriers that would otherwise force the consumer to pause and deliberate.

Second, social value leverages the desire for prosocial signaling. Even in online environments, green logistics often come with shareable digital badges or visible eco-packaging that enhances the consumer’s self-concept and social standing, providing an immediate psychological incentive to opt-in (Bask et al., 2013).

Third, conditional value acts as the primary immediate stimulus. Green logistics are often presented under highly specific situational contingencies, such as a prominent checkout prompt or a limited-time environmental campaign. This contextual urgency significantly elevates arousal, a critical precursor to impulsive action (Rook, 1987).

Fourth, emotional value provides the affective reward. Selecting an eco-friendly shipping option instantly delivers a psychological “warm-glow”, a sudden sense of moral satisfaction and ethical pride derived from mitigating the environmental impact of one’s purchase (Steg et al., 2014). This immediate affective gratification is a hallmark driver of spontaneous purchasing behaviors.

Finally, epistemic value stimulates curiosity. The introduction of novel logistics solutions, such as drone delivery, biodegradable mailers or transparent carbon-tracking dashboards, appeals to the consumer’s desire for new experiences, prompting an impulsive trial of the service. Therefore, the below hypotheses are proposed:

H3b–7b. Green consumption values have a significant positive impact on customer impulsiveness, such that functional value (H3b), social (H4b), emotional (H5b), epistemic (H6b) and conditional values (H7b) positively associate with consumer impulsiveness.

Trust impacts purchase intention and willingness to pay premium. In the context of sustainable consumption, purchase intention reflects a consumer’s conscious plan and willingness to acquire a product or service, serving as the most direct empirical predictor of actual behavioral execution. However, the decision to select green logistics services, such as carbon-neutral delivery or biodegradable packaging, is inherently fraught with uncertainty.

Because the environmental benefits of these logistics options cannot be directly observed or verified by the consumer even after the transaction is complete, the perceived risk of corporate “greenwashing” remains a significant cognitive barrier to adoption. Consequently, customer trust emerges as a fundamental psychological mechanism required to bridge this gap of uncertainty (Chen and Chang, 2012).

According to the foundational commitment-trust theory of relationship marketing (Morgan and Hunt, 1994), trust actively mitigates perceived vulnerabilities, enabling consumers to comfortably engage in exchanges where high information asymmetry exists. When consumers possess a robust level of trust in a logistics provider’s ecological claims, their cognitive friction and skepticism are substantially diminished. This psychological confidence validates the anticipated environmental value of the service, effectively transforming a latent pro-environmental attitude into a concrete, actionable willingness to purchase.

Furthermore, empirical research consistently demonstrates that once green trust is firmly established, consumers are significantly more likely to prioritize that specific provider and exhibit a stronger, more resilient intention to adopt their sustainable offerings, often demonstrating a willingness to absorb associated price premiums (Chen and Chang, 2012; Giuffrida et al., 2017)). Therefore, by alleviating perceived transactional risks and fostering relational confidence, trust serves as a critical catalyst for driving affirmative consumer decision-making within sustainable supply chains. Based on this theoretical rationale, the following hypothesis is proposed:

H8a. Customer trust positively impacts purchase intention toward green logistics services.

Willingness to pay a premium represents the maximum additional financial amount a consumer is prepared to spend to acquire a product or service that aligns with their environmental values, as opposed to a conventional, lower-cost alternative. In the specific context of green logistics, making this financial sacrifice is uniquely challenging due to the inherent intangibility of the service.

To overcome this perceived financial vulnerability, customer trust must function as a vital psychological safeguard. Trust acts as a heuristic that validates the authenticity of the firm’s environmental claims; when consumers firmly believe in a logistics provider’s reliability, benevolence and ecological integrity, they are reassured that their supplementary financial contribution will genuinely translate into positive, real-world environmental outcomes (Chen, 2010).

Rooted in the commitment-trust theory of relationship marketing (Morgan and Hunt, 1994), high levels of trust foster a deeper relational commitment, which effectively shifts the consumer’s cognitive focus away from short-term transactional costs and toward long-term, shared environmental goals. Consequently, trusted service providers significantly reduce the cognitive friction and skepticism associated with spending extra money on intangible credence services. Building on this theoretical rationale, the following hypothesis is proposed:

H8b. Customer trust positively impacts willingness to pay a premium toward green logistics services.

Impulsiveness impacts purchase intention and willingness to pay premium. Within context, time-sensitive environment of e-commerce checkouts, green logistics services (e.g. carbon-neutral delivery or eco-friendly packaging) are frequently presented as immediate, point-of-sale add-ons. Consumers exhibiting high levels of state impulsiveness tend to possess a lower threshold for cognitive deliberation; rather than systematically evaluating the functional costs or long-term ecological impacts of these shipping options, they rely heavily on immediate affective heuristics (Verplanken and Herabadi, 2001).

The sudden presentation of a sustainable logistics choice can trigger a spontaneous emotional response, such as the anticipation of moral satisfaction or a prosocial “warm-glow,” which rapidly overrides standard price sensitivity and analytical hesitation. Because

impulsivity inherently minimizes the cognitive friction and perceived risk associated with unplanned spending, this heightened state of affective arousal swiftly bypasses extensive pre-purchase evaluation and translates directly into a robust behavioral intent (Amos *et al.*, 2014; Zhang *et al.*, 2018). Consequently, the inherent spontaneity of impulsive consumer tendencies acts as a powerful psychological catalyst, accelerating the transition from a brief environmental stimulus at checkout to a definitive purchase intention for sustainable shipping. Therefore, the following hypothesis is proposed:

H9a. Impulsiveness positively impacts customer purchase intention toward green logistics services.

WPP reflects a consumer's readiness to incur an additional financial cost to secure a product or service that offers superior environmental benefits compared to a standard alternative. In the context of e-commerce checkouts, green logistics options frequently require this additional fee to secure a product or service that offers superior environmental benefits. While traditional economic models assume consumers will rationally weigh this extra cost against the intangible ecological benefit, the presence of impulsive behavioral tendencies fundamentally alters this evaluation. Crucially, when consumers enter an impulsive state, their standard price sensitivity and rigorous cost-benefit analyses are significantly diminished. The affective arousal generated by the point-of-sale stimulus (such as the sudden anticipation of moral satisfaction or the prosocial "warm-glow" of making an eco-friendly choice) dominates their cognitive bandwidth (Amos *et al.*, 2014).

Because impulsive buyers are heavily focused on immediate affective gratification rather than long-term financial consequences, the cognitive friction typically associated with spending extra money is temporarily suspended. Consequently, when presented with a green logistics option at checkout, highly impulsive consumers are less likely to hesitate over the premium surcharge. Instead, their elevated emotional arousal and reduced price sensitivity facilitate the immediate acceptance of the additional cost, transforming a sudden pro-environmental urge into a concrete financial commitment. Based on this theoretical rationale, the following hypothesis is proposed:

H9b. Impulsiveness positively impacts willingness to pay premium toward green logistics services.

Method

Procedure

To empirically test the proposed conceptual framework, data will be gathered using the Prolific crowdsourcing platform (<http://www.prolific.ac>), specifically targeting a sample of adult residents in Vietnam. Prolific was selected due to its established reputation in the academic literature as a robust and dependable source for high-quality respondent data in behavioral and social science research (Douglas *et al.*, 2023). Each participant received a compensation of 0.6 pounds upon survey completion.

The survey instrument, administered in Vietnamese, will utilize strict screening protocols to verify that all respondents are adults possessing recent and relevant experience with the focal logistics services, either through direct usage, past purchases or active consideration. This rigorous pre-screening guarantees that consumer evaluations regarding green advertising, green services and willingness to pay a price premium are anchored in authentic market behaviors rather than purely hypothetical conjectures. Additionally, the sampling framework is structured to yield a demographically representative cross-section of the population, encompassing a diverse range of ages, genders and educational attainment levels. Upon completion of the data collection phase, a stringent data purification protocol will be executed. This step involves systematically eliminating invalid submissions, including

incomplete surveys, responses demonstrating straight-lining behavior, uncharacteristically rapid completion times and those that fail embedded attention checks.

Sample

A total of 310 participants completed the survey. We excluded seven participants who did not complete all measures, exhibited duplicate IP numbers, provided arbitrary or irrelevant responses, leaving a final sample with 303 participants (Mage = 31.8; 48.1% male). In terms of education, 37% were undergraduates, 49.1% had university degree, and the remaining 13.9% are post graduates.

Measurements

Green advertising (GA). Brand green advertisement was measured with a six-item scale reflecting consumers' attention and interest in environmentally oriented advertising. The items show how respondents paid attention to products with environment saving labels through green advertising (Li, 2025). Example items included "I tend to focus on advertising information that talks about the environment" and "I think I can get a more effective message from this green ad than from traditional ads."

Green brand image (BI). Green brand image was measured using a three-item scale, showing consumers' perceptions of a brand's environmental image and its consistency with their personal values. Specifically, the items assessed whether the performance of the brand's green products met respondents' expectations, whether these products aligned with their environmental values, and whether the brand demonstrated a meaningful level of environmental commitment through its activities (Tu et al., 2024). Representative items included "The performance of the brands' sustainable instant delivery meets my expectations" and "The brands' sustainable instant delivery aligns with my environmental values."

Green consumption value. Green consumption value was measured as a multidimensional construct reflecting the extent to which consumers perceive green products as valuable across functional (FV), social (SV), conditional (CV), emotional (EV) and epistemic dimensions (EPV) (Lin et al., 2025). Functional value referred to consumers' evaluation of the product's quality, performance consistency and value for money; social value showed the extent to which purchasing green products could enhance social approval and improve the way consumers are perceived by others; conditional value reflected consumers' willingness to choose green products over conventional alternatives under favorable circumstances; emotional value described the positive moral feelings associated with buying green products, such as feeling that one is making a personal contribution to something better; and epistemic value showed consumers' desire to seek information, explore novelty and learn about different product options before purchase.

Trust (TR). Trust in green brands was measured using four items describing the degree to which consumers viewed environmentally responsible brands as reliable, sustainable and worthy of confidence (Nguyen and Nguyen, 2025). Illustrative items included "Deliveries from brands that have actions to serve promises and commitments regarding environmental preservation are generally reliable" and "I am confident to purchase through instant deliveries that contribute to environmental protection."

Impulsiveness (IM). Impulsive buying tendency was measured with a three-item scale, showing spontaneous purchase urges among customers while browsing a website. The items focused on consumers' desire to buy products beyond their original shopping goal (Wells et al., 2011). Sample items included "As I browsed this website, I had the urge to purchase items other than or in addition to my specific shopping goal" and "While browsing this website, I had the inclination to purchase items outside my specific shopping goal."

Purchase intention. Purchase intention toward green products was measured using five items reflecting favorable evaluations and behavioral inclination toward eco-friendly products. According to Li (2025), these items showed beliefs that green products are better

for the environment, offer value for money, improve environmental performance and are worth recommending to others. Items included “Sustainable instant deliveries are better for the environment as compared with general ones” and “I am willing to recommend sustainable instant deliveries to others.”

Willingness to pay a premium (WP). WPP for green products was measured using three items assessing consumers’ readiness to spend more on environmentally friendly products. The items focused on the acceptability of paying higher prices for services operated in environmentally responsible ways (Lin *et al.*, 2025). Items included “It is acceptable to pay 10% more for sustainable instant deliveries” and “I would be willing to spend an extra \$10 a week to use less environmentally harmful delivery services.”

Analytical strategy

To evaluate the proposed hypotheses, the analytical procedures were conducted utilizing the PROCESS macro version 3.0 (Hayes, 2018). To systematically assess the indirect mediation effects, a parametric bootstrapping technique employing 5,000 resamples was executed, aligning with the methodological framework recommended by Preacher *et al.* (2007). This computational approach derives 95% bias-corrected confidence intervals from the empirical distribution of the indirect effects, relying on the estimated parameters and their corresponding standard errors. Furthermore, the conceptual model was initially analyzed both with and without the inclusion of control variables. Because the substantive findings remained robust and unaltered across both specifications, the final reported results exclude these covariates, strictly adhering to established methodological best practices for parsimony (Carlson and Wu, 2011).

Results

Correlations

The means, standard deviations and correlations of the focal variables are presented in Table 1.

As shown in Table 1, all variables demonstrate acceptable internal consistency, with Cronbach’s alpha coefficients exceeding the 0.7 threshold. Furthermore, the correlation matrix indicates that all variables are positively correlated with one another.

Hypothesis testing

The regression analysis results, presented in Table 2, demonstrate robust empirical support for all proposed hypotheses. Specifically, the findings indicate that both green advertising and green brand image exert a statistically significant positive effect on consumer trust and impulsiveness, thereby supporting H1a, H1b, H2a and H2b. Similarly, all five dimensions of green consumption values (functional, social, conditional, emotional and epistemic) were found to significantly influence both trust and impulsiveness. Finally, the results confirm that both trust and impulsiveness serve as significant positive predictors of consumers’ purchase intentions and their WPP, providing strong support for hypotheses H8a, H8b, H9a and H9b.

Multicollinearity test

Table 1 shows some high correlations between independent variables (>0.7). Therefore, the authors provided a test for potential multicollinearity, examining VIF (variance inflation factor). The results are presented in Table 3.

As presented in Table 3, all VIF values are below the acceptable threshold of 5 (Kyriazos and Poga, 2023). This indicates that multicollinearity is not a significant issue in this study, thereby confirming the overall robustness of the hypothesized model.

Table 1. Means, standard deviations and correlations among focal variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. GA	5.09	1.27	(0.91)										
2. BI	4.95	1.39	0.65**	(0.94)									
3. FV	5.13	1.20	0.78**	0.74**	(0.95)								
4. SV	4.74	1.54	0.62**	0.54**	0.61**	(0.94)							
5. EM	5.60	1.20	0.67**	0.47**	0.61**	0.65**	(0.90)						
6. EPV	5.62	1.19	0.50**	0.42**	0.52**	0.33**	0.40**	(0.92)					
7. CV	5.61	1.07	0.58**	0.44**	0.51**	0.58**	0.67**	0.41**	(0.95)				
8. TR	5.25	1.21	0.81**	0.66**	0.79**	0.58**	0.63**	0.48**	0.54**	(0.88)			
9. IM	4.42	1.58	0.51**	0.43**	0.47**	0.52**	0.40**	0.30**	0.39**	0.50**	(0.93)		
10. PI	5.47	1.06	0.75**	0.55**	0.73**	0.65**	0.82**	0.53**	0.64**	0.74**	0.48**	(0.87)	
11. WP	4.54	1.58	0.72**	0.50**	0.66**	0.57**	0.62**	0.44**	0.51**	0.63**	0.44**	0.65**	(.88)

Note(s): *N* = 313. Cronbach's alphas are presented on the diagonal in parentheses

**p* < 0.05

***p* < 0.01

Table 2. Unstandardized coefficients of path analysis

Effects	Estimates	SE	95% confidence interval
<i>Total effects</i>			
Green advertisement → Purchase intention	0.627***	0.032	(0.565, 0.689)
Green advertisement → Willingness to pay premium	0.889***	0.050	(0.791, 0.987)
Green Brand Image → Purchase intention	0.420***	0.037	(0.348, 0.492)
Green Brand Image → Willingness to pay premium	0.561***	0.057	(0.449, 0.673)
Functional value → Purchase intention	0.641***	0.035	(0.572, 0.710)
Functional value → Willingness to pay premium	0.868***	0.057	(0.756, 0.980)
Social value → Purchase intention	0.448***	0.030	(0.387, 0.506)
Social value → Willingness to pay premium	0.588***	0.048	(0.493, 0.683)
Conditional value → Purchase intention	0.634***	0.044	(0.548, 0.721)
Conditional value → Willingness to pay premium	0.754***	0.073	(0.610, 0.898)
Emotional value → Purchase intention	0.718***	0.029	(0.660, 0.775)
Emotional value → Willingness to pay premium	0.812***	0.059	(0.695, 0.929)
Epistemic value → Purchase intention	0.469***	0.043	(0.384, 0.554)
Epistemic value → Willingness to pay premium	0.575***	0.069	(0.440, 0.710)
<i>Direct effects</i>			
Green advertisement → Trust (H1a)	0.771***	0.032	(0.708, 0.835)
Green advertisement → Impulsiveness (H1b)	0.630***	0.062	(0.508, 0.751)
Green Brand Image → Trust (H2a)	0.573***	0.038	(0.498, 0.648)
Green Brand Image → Impulsiveness (H2b)	0.492***	0.059	(0.376, 0.608)
Functional value → Trust (H3a)	0.805***	0.036	(0.735, 0.875)
Functional value → Impulsiveness (H3b)	0.618***	0.067	(0.486, 0.750)
Social value → Trust (H4a)	0.455***	0.037	(0.382, 0.529)
Social value → Impulsiveness (H4b)	0.534***	0.050	(0.435, 0.634)
Emotional value → Trust (H5a)	0.633***	0.045	(0.544, 0.722)
Emotional value → Impulsiveness (H5b)	0.519***	0.069	(0.383, 0.656)
Epistemic value → Trust (H6a)	0.483***	0.052	(0.382, 0.585)
Epistemic value → Impulsiveness (H6b)	0.397***	0.073	(0.254, 0.540)
Conditional value → Trust (H7a)	0.609***	0.055	(0.500, 0.718)
Conditional value → Impulsiveness (H7b)	0.574***	0.078	(0.420, 0.729)
Trust → Purchase intention (H8b)	0.644***	0.034	(0.578, 0.711)
Trust → Willingness to pay premium (H8b)	0.818***	0.058	(0.703, 0.932)
Impulsiveness → Purchase intention (H9a)	0.325***	0.034	(0.258, 0.391)
Impulsiveness → Willingness to pay premium (H9b)	0.442***	0.052	(0.340, 0.544)
<i>Indirect effects</i>			
Green advertisement → Trust → Purchase intention	0.253***	0.049	(0.163, 0.356)
Green advertisement → Trust → Willingness to pay premium	0.146***	0.067	(0.011, 0.276)
Green advertisement → Impulsiveness → Purchase intention	0.058***	0.023	(0.015, 0.106)
Green advertisement → Impulsiveness → Willingness to pay premium	0.066***	0.035	(0.001, 0.137)
Green Brand Image → Trust → Purchase intention	0.331***	0.043	(0.249, 0.417)
Green Brand Image → Trust → Willingness to pay premium	0.398***	0.059	(0.289, 0.518)
Green Brand Image → Impulsiveness → Purchase intention	0.100***	0.028	(0.052, 0.161)
Green Brand Image → Impulsiveness → Willingness to pay premium	0.138***	0.039	(0.070, 0.223)
Functional value → Trust → Purchase intention	0.309***	0.054	(0.208, 0.420)
Functional value → Trust → Willingness to pay premium	0.300***	0.079	(0.154, 0.459)
Functional value → Impulsiveness → Purchase intention	0.076***	0.026	(0.029, 0.130)
Functional value → Impulsiveness → Willingness to pay premium	0.104***	0.038	(0.037, 0.185)
Social value → Trust → Purchase intention	0.217***	0.029	(0.162, 0.274)
Social value → Trust → Willingness to pay premium	0.265***	0.039	(0.189, 0.340)
Social value → Impulsiveness → Purchase intention	0.071***	0.023	(0.029, 0.120)
Social value → Impulsiveness → Willingness to pay premium	0.105***	0.035	(0.041, 0.174)
Conditional value → Trust → Purchase intention	0.295***	0.036	(0.228, 0.369)

(continued)

Table 2. Continued

Effects	Estimates	SE	95% confidence interval
Conditional value → Trust → Willingness to pay premium	0.395***	0.054	(0.293, 0.505)
Conditional value → Impulsiveness → Purchase intention	0.107***	0.026	(0.060, 0.162)
Conditional value → Impulsiveness → Willingness to pay premium	0.165***	0.041	(0.087, 0.251)
Emotional value → Trust → Purchase intention	0.207***	0.028	(0.157, 0.265)
Emotional value → Trust → Willingness to pay premium	0.327***	0.053	(0.224, 0.431)
Emotional value → Impulsiveness → Purchase intention	0.066***	0.018	(0.035, 0.104)
Emotional value → Impulsiveness → Willingness to pay premium	0.121***	0.034	(0.061, 0.194)
Epistemic value → Trust → Purchase intention	0.265***	0.038	(0.195, 0.342)
Epistemic value → Trust → Willingness to pay premium	0.343***	0.048	(0.253, 0.440)
Epistemic value → Impulsiveness → Purchase intention	0.095***	0.026	(0.049, 0.151)
Epistemic value → Impulsiveness → Willingness to pay premium	0.136***	0.036	(0.071, 0.211)

Note(s): * $p < 0.05$, ** $p < 0.01$. $N = 313$. Estimates = Unstandardized path coefficients

Table 3. VIF values of focal variables

Variables	VIF
Green advertising	3.96
Green brand image	2.36
Functional value	4.10
Emotional value	2.64
Social value	2.31
Conditional value	2.08
Epistemic value	1.46
Trust	3.74
Impulsiveness	1.53

Discussion

The empirical findings of this study provide robust support for all proposed hypotheses, validating the integrated conceptual framework and offering significant contributions to the literature on sustainable consumption and green logistics. Specifically, the results illuminate a dual-pathway mechanism, comprising both cognitive-relational (trust) and affective-spontaneous (impulsiveness) routes, through which external green stimuli and perceived values translate into concrete behavioral outcomes.

First, the data support the role of green advertising and green brand image in facilitating consumer purchase intention and willingness to pay a premium for green logistics services. Grounded in signaling theory (Connelly *et al.*, 2011), green advertising and brand image serve as critical external stimuli to reduce information asymmetry. Because consumers cannot physically observe a delivery’s carbon offsetting, advertising acts as a vital signaling mechanism. Compared to developed markets in Europe, where institutional trust and standardized eco-labels often suffice to drive green logistics adoption (Biancolin and Rotaris, 2024), consumers in emerging markets exhibit higher baseline skepticism toward corporate environmental claims. Consistent with recent Vietnamese studies (Nguyen-Viet, 2023), our findings indicate that effective green advertising in Vietnam must do more than transmit facts; it must utilize emotional storytelling to foster affective arousal. This arousal constructs an initial layer of cognitive trust and acts as the primary catalyst for impulsiveness, allowing consumers to bypass extended utilitarian deliberation (Septianto *et al.*, 2021).

Second, the realization of service green consumption values bridges the gap between external brand promises and internal consumer needs. Relying on the theory of consumption values (Sheth *et al.*, 1991), the data highlight that sustainable logistics cannot survive on environmental altruism alone; they must deliver multidimensional utility. In Western contexts, emotional and social values often dominate pro-environmental behavior (Steg *et al.*, 2014). However, our findings align more closely with research from other developing Asian markets, such as China (Ding and Lee, 2024), which demonstrates that functional value (e.g. reliable tracking) and epistemic value (e.g. transparent carbon reporting) are equally critical. These pragmatic values directly fortify cognitive trust by proving operational competence. Conversely, social and emotional values cater to affective needs. The simultaneous delivery of these diverse values creates a highly compelling proposition, satisfying both the rigorous requirements for trust and the emotional desires that drive impulsiveness.

Furthermore, the data strongly support the cognitive and relational pathway anchored by customer trust. Consistent with the commitment-trust theory of relationship marketing (Morgan and Hunt, 1994), the findings demonstrate that a well-established green brand image and the delivery of green consumption values are critical antecedents to mitigating consumer skepticism. Because green logistics services possess intangible credence attributes, consumers face a high perceived risk of greenwashing (Inês *et al.*, 2023). Previous research in Vietnam has noted that the “intention-behavior gap” is largely driven by a lack of trust in corporate sustainability claims (Nguyen *et al.*, 2019). The validation of these hypotheses confirms that when logistics providers successfully communicate genuine environmental commitment, they effectively reduce cognitive friction. Consequently, established trust serves as a foundational heuristic that significantly enhances both purchase intention and the willingness to absorb financial premiums (Chen and Chang, 2012).

Finally, the confirmation of the hypotheses surrounding impulsiveness introduces a compelling expansion to the traditional understanding of green consumer behavior. Historically, studies in Vietnam and the broader Southeast Asian region have relied heavily on the theory of planned behavior, conceptualizing green purchasing as a slow, deliberate and rational process constrained by price sensitivity (Hoang *et al.*, 2026; Ngo *et al.*, 2025). However, integrating the S-O-R paradigm with impulse buying literature, the current data reveal that green marketing stimuli also trigger affective arousal and spontaneous decision-making at the point of sale. This aligns with emerging global e-commerce literature (Bhakat, 2025), proving that the anticipation of a prosocial “warm-glow” (Andreoni, 1990) can temporarily override strict utilitarian cost–benefit analyses. The significant positive impact of impulsiveness indicates that green logistics selections at modern, fast-paced checkouts are frequently driven by immediate, emotion-laden urges.

Ultimately, the supported structural model demonstrates that driving the adoption of green logistics requires a sophisticated, dual-pronged approach. Consumers must be rationally reassured of the service’s integrity and value to build long-term trust, while simultaneously being affectively stimulated at the checkout interface to capitalize on the impulsive, emotionally driven desire to engage in pro-environmental behavior.

Theoretical implications

The findings of this study offer several significant theoretical contributions to the extant literature on sustainable consumption, service marketing and green supply chain management. By validating a comprehensive structural model, this research expands the theoretical boundaries of how consumers evaluate and adopt intangible environmental services.

First, this study makes a profound contribution to the sustainable consumer behavior literature by empirically validating a dual-pathway mechanism. Historically, research on green consumption has predominantly relied on rational choice models, such as the theory of planned behavior (Ajzen, 1991), which conceptualize pro-environmental purchasing as a highly deliberate, systematic and calculating process. However, by integrating the S-O-R

paradigm (Mehrabian and Russell, 1974) with established impulse buying frameworks (Rook, 1987), this research demonstrates that sustainable choices, specifically green logistics options selected at an e-commerce checkout, are frequently driven by immediate affective arousal and impulsiveness. This integration proves that pro-environmental behavior is not exclusively a product of prolonged cognitive deliberation, but can also be effectively triggered as a spontaneous, emotionally driven response to environmental stimuli.

Second, this research enriches the theory of consumption values (Sheth *et al.*, 1991) by extending its application from tangible eco-friendly goods to intangible, credence-based logistics services. While previous studies have utilized multidimensional value frameworks to explain the adoption of physical green products like organic food or energy-efficient appliances (Lin and Huang, 2012), the evaluation of sustainable supply chain elements, such as carbon offsetting or optimized routing, presents a unique theoretical challenge due to severe information asymmetry. By validating that functional, social, emotional, epistemic and conditional values collectively mitigate perceived risk and drive both trust and impulsiveness, this study offers a novel, context-specific adaptation of the theory. It establishes that multidimensional value delivery is theoretically imperative to overcome the inherent intangibility of green services.

Finally, the study advances the commitment-trust theory of relationship marketing (Morgan and Hunt, 1994) within the specific context of e-commerce sustainability. The findings elucidate the critical mediating role of green trust in translating external marketing stimuli, namely green advertising and green brand image, into concrete financial commitments, such as the willingness to pay a price premium (Chen, 2010; Laroche *et al.*, 2001). Because the contemporary marketplace is saturated with unverified ecological claims, this research confirms that in environments characterized by a high risk of “greenwashing,” trust is not merely a relational byproduct. Instead, it functions as a fundamental cognitive heuristic that bridges the gap between a firm’s environmental signaling and a consumer’s actual behavioral execution.

Practical implications

Regarding green advertising and green brand image, in the Vietnamese market, consumers exhibit high baseline skepticism toward corporate “greenwashing,” which frequently results in a severe intention-behavior gap at checkout (Nguyen *et al.*, 2019). Consequently, generic environmental claims are insufficient. Firms must actively engineer their green brand image to trigger the cognitive trust pathway through evidence-based advertising. Campaigns should pivot from abstract imagery to hyper-local, data-driven storytelling, such as quantifying exact carbon emission reductions in specific urban centers like Ho Chi Minh City or Hanoi. Furthermore, to solidify this green brand image, logistics providers should partner with recognized Vietnamese environmental NGOs or obtain local sustainability certifications. Displaying these verified trust badges prominently at the e-commerce checkout interface serves as a critical heuristic that reduces information asymmetry and validates the green premium (Chen and Chang, 2012).

Relying merely on environmental altruism will not sustain a premium pricing model. Logistics firms must redesign their checkout architectures to explicitly deliver all five dimensions of green consumption value, simultaneously satisfying rational requirements and emotional desires.

First, regarding functional value (reliability and utility), Vietnamese consumers will not trade basic service quality for sustainability (Hoang *et al.*, 2026; Ngo *et al.*, 2025). Providers must guarantee that green shipping maintains strict service-level agreements. Utilizing features like dedicated live-tracking for “Green Couriers” demonstrates operational competence and directly fortifies cognitive trust.

Second, regarding emotional value (affective arousal), to trigger the affective impulsiveness pathway, the checkout experience must evoke a prosocial “warm glow”

(Septianto *et al.*, 2021). Because our hypothesized model demonstrates that this affective arousal can bypass extended price deliberation, practitioners should focus on integrating emotionally resonant green advertising directly at the point of sale. For instance, drawing on recent research, integrating gamified digital interfaces or visual cues has been shown to successfully translate sustainable consumption values into practice (La Ragione *et al.*, 2026).

Third, regarding social value (status and peer recognition), e-commerce is a highly social activity in Vietnam. Firms can amplify social value by integrating shareable sustainability milestones directly into local networks like Zalo or Facebook, as electronic word-of-mouth (eWOM) on these platforms has been proven to strongly positively influence green purchase intentions among Vietnamese consumers (Nguyen *et al.*, 2024). Additionally, utilizing distinct biodegradable packaging makes the consumer's pro-environmental choice physically visible to peers, satisfying the desire for social status (Steg *et al.*, 2014).

Fourth, regarding epistemic value (knowledge and transparency), to satisfy the consumer's epistemic desire for knowledge and further reduce perceived risk, platforms should integrate transparent, clickable impact tooltips next to the green surcharge. These tooltips should clearly explain the sustainable technology or detail exactly how the premium funds electric vehicle (EV) fleets.

Lastly, regarding conditional value (contextual relevance), willingness to pay for sustainability is often highly context-dependent. Firms can leverage conditional value by utilizing dynamic environmental triggers. For instance, data indicate that the Air Quality Index (AQI) in major Vietnamese cities frequently reaches hazardous levels, significantly heightening public environmental awareness (Hoang *et al.*, 2026). Platforms could push targeted notifications or offer subsidized green premiums on days when the local AQI is unhealthy. Highlighting the immediate, local relevance of emission-free delivery creates a powerful situational context that maximizes conversion rates.

Limitation and future research

While this study offers valuable theoretical and practical insights into sustainable e-commerce behaviors, several limitations must be acknowledged to properly contextualize the findings and guide future academic inquiries.

First, this study is situated within the Vietnamese green logistics market, which is currently nascent and highly fragmented. Consequently, the research explores a consumer phenomenon that has not yet fully matured or been widely implemented across the target demographic. As the sector evolves and sustainable delivery options become standardized, consumer perceptions and expectations may shift. Future research should replicate this structural model in more mature logistics markets or revisit the Vietnamese context as eco-friendly delivery becomes mainstream to assess the stability of these findings.

Second, the reliance on a cross-sectional survey design inherently restricts the ability to establish definitive cause-and-effect relationships among the variables over time. Because the empirical data represent a one-time snapshot, the current study cannot definitively confirm whether the observed willingness to pay a green premium represents a lasting consumer demand or merely a short-term trend driven by recent environmental awareness. This lack of longitudinal data subsequently constrains the long-term applicability of the practical implications, as the findings cannot fully account for how consumer behavior might adapt as the market and pricing structures evolve. Therefore, future studies are strongly encouraged to employ longitudinal designs to track the trajectory of green purchase intentions and premium acceptance over extended periods.

Third, the measurement methodology relies on self-reported survey data, which inherently introduces the potential for social desirability bias. In environmental research, respondents may unconsciously overstate their pro-environmental attitudes and behavioral intentions to align with perceived societal norms (Podsakoff *et al.*, 2003). To mitigate this limitation, future investigations should look beyond self-reported questionnaires and incorporate randomized

experimental designs (e.g. A/B testing on live e-commerce platforms) or utilize actual transactional checkout data to validate stated intentions against objective purchasing behavior.

Finally, the current empirical results do not capture real-world performance variability within actual dispatch environments. The willingness to adopt green logistics is often contingent on service quality, yet this study does not account for operational metrics such as fluctuations in on-time delivery rates or route completion efficiency. Because operational reliability significantly impacts the cognitive trust pathway, future interdisciplinary research should integrate objective supply chain performance data with consumer behavioral models to provide a more holistic, operationally grounded understanding of sustainable last-mile delivery adoption.

Conclusion

This study investigated the psychological drivers of green logistics adoption in Vietnam's e-commerce market. By integrating the S-O-R paradigm with the theory of consumption values, survey data from 303 consumers validated a comprehensive dual-pathway model. The findings confirm that green advertising, green brand image and multidimensional green consumption values simultaneously trigger cognitive trust and affective impulsiveness, which in turn drive purchase intentions and the willingness to pay a green premium.

Theoretically, this research extends beyond traditional rational-choice models (Ajzen, 1991) by demonstrating that sustainable e-commerce checkouts are governed by both deliberate evaluations and spontaneous affective arousal (Hayat et al., 2025). It uniquely contextualizes the theory of consumption values for intangible credence services, proving that a combination of pragmatic (functional/epistemic) and emotional (social/conditional) values is necessary to overcome market information asymmetry.

Practically, logistics providers must replace generic "green surcharges" with targeted, value-driven checkout strategies. To build cognitive trust, firms should utilize hyper-local, evidence-based advertising and display verifiable eco-certifications directly at the point of sale. Concurrently, to stimulate impulsiveness, platforms must integrate immediate emotional and social rewards (such as gamified eco-badges, transparent impact tooltips and dynamic environmental triggers linked to local air quality metrics).

Limitations include the cross-sectional survey design and reliance on self-reported data, which may introduce social desirability bias (Podsakoff et al., 2024). Future research should employ longitudinal methods or randomized field experiments (e.g. A/B testing) utilizing actual transactional data to observe behavioral changes over time. Additionally, cross-cultural replications are encouraged to test the framework's generalizability beyond the emerging Vietnamese market.

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