The Impact of Green Perceived Attitude, Trust, and Perceived Behavioral Control on Green Purchase Intention and Behavior: Evidence from Hainan's Green Tourism

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Abstract:

As a key eco-tourism destination in China, Hainan Province uses its rich natural resources and policy support to promote green tourism. However, challenges remain in enhancing tourists' perceptions, trust, and intentions toward green tourism behaviors. This study employs Structural Equation Modeling (SEM) to examine how green perceived attitude, green trust, and perceived behavioral control influence green purchase intention and behavior, with special focus on the mediating role of intention.

A purposive sampling technique yielded 330 valid responses from tourists visiting Hainan Province. The results demonstrate that green perceived attitude and perceived behavioral control play a significant role in strengthening green purchase intention, while green trust shows no substantial effect. Additionally, green purchase intention serves as an essential mediator in the link between perceived behavioral control and green purchase behavior. Interestingly, green perceived attitude indirectly affects green purchase behavior through its impact on green purchase intention. On the other hand, green trust exerts a direct and positive influence on green purchase behavior. These findings highlight the critical role of green perceived attitude and perceived behavioral control in fostering green purchase intention and behavior among tourists in Hainan province. To strengthen green tourism in Hainan, policy efforts should prioritize improving tourists' perceived behavioral control and attitudes by increasing the accessibility and appeal of sustainable choices. This can be achieved through subsidies, discounts, and better promotion of eco-friendly accommodations, tours, and transport options. Additionally, green certifications for tourism businesses and public awareness campaigns on the environmental benefits of sustainable tourism will further boost positive attitudes. These measures not only empower eco-conscious decision-making but also position Hainan as a leader in sustainable tourism, aligning with global trends and enhancing its attractiveness to environmentally aware travelers.

Keywords: Green perceived attitude; Green trust; Green Purchase Behavior; Green purchase intention; Perceived behavioral control; Hainan's Green Tourism.

1.0 INTRODUCTION

Over the past several decades, global environmental challenges have intensified dramatically. Phenomena such as global warming, climate change, the greenhouse effect, and environmental pollution have become increasingly severe, with the continuous growth of carbon emissions from human activities identified as the primary driver (Ahmad et al., 2018). Alongside sustained economic development and growing awareness of ecological civilization, public interest in sustainable consumption has surged. Consumers are increasingly prioritizing the environmental friendliness of products and services, which has accelerated the global promotion of green practices, including green offices, green marketing, and green tourism (Wang et al., 2023). Among these, green tourism—also known as sustainable or eco-tourism—has become a pivotal strategy in destination management, particularly in ecologically sensitive regions like Hainan Island, China.

Hainan has been actively leveraging its rich natural resources and biodiversity to develop sustainable tourism strategies that align with global environmental goals. As one of China's premier ecological tourism destinations, Hainan depends heavily on the tourism industry, with tourism revenues accounting for approximately 90% of their gross domestic product (GDP) (Guo et al., 2024). However, the rapid pace of urbanization and continuous tourism growth have increasingly pressured Hainan's fragile ecosystem. Its relatively undiversified economy, limited natural resources, and low environmental carrying capacity make it particularly vulnerable to ecological disturbances triggered by tourism (Yang et al., 2025). To balance economic development with ecological protection, fostering sustainable tourism has become critical (United Nations, 2020).

In line with initiatives such as the "One Planet, One Earth" campaign and the Global Sustainable Destinations Index, Hainan's green tourism push emphasizes ecological protection while promoting local economic growth (UNWTO, 2021). Yet, despite heightened attention to green tourism, empirical research on tourists' behaviors and purchase intentions within the context of sustainable tourism remains limited (Ibnou-Laaroussi et al., 2020). Understanding the psychological and behavioral drivers of tourists' green purchasing decisions is vital for advancing effective sustainable tourism management.

Theory of Planned Behavior (TPB) has established itself as a cornerstone in interpreting how tourists form their behavioral intentions (Nguyen et al., 2024). While there's no denying its foundational status, I've noticed that many earlier investigations focus predominantly on how attitudes steer these intentions, which then ripple outward to influence eco-friendly tourism behaviors (Utomo et al., 2025). Yet, despite its strengths, TPB seems to skim over an important nuance: the element of trust—especially green trust—hasn't received the attention it arguably deserves when it comes to sustainable consumption choices. Personally, I find it compelling that recent evidence increasingly points to green trust as a significant driver pushing consumers toward eco-conscious products and services (Shah et al., 2023). In light of this overlooked dimension, my study ventures to expand the TPB model by weaving in the concept of green trust. I aim to unpack more intricately how tourists form their intentions and translate them into green purchasing behaviors. For this, Hainan Island offers a fitting backdrop, allowing a closer look at how factors like perceived behavioral control, trust, attitudes, and actual behaviors interconnect in a real-world setting. Preliminary results reveal that while green perceived attitude and perceived behavioral control significantly strengthen green purchase intention, green trust exerts both indirect and direct effects on actual purchase behavior. These insights not only enrich the theoretical framework but also offer practical strategies for sustainable tourism development in Hainan.

2.0 LITERATURE REVIEW

2.1 Green tourism

Green tourism—often dubbed sustainable tourism—centers around the idea of minimizing the harm caused to the environment, local cultures, and communities, all while striving to enhance its positive footprint on long-term development (Thang & Thanh, 2023). At its heart, this approach appeals to eco-conscious travelers, offering services and experiences that are designed in harmony with sustainability ideals. Reflecting on this, Khan et al. (2020) drew attention to how closely environmental sustainability within tourism is intertwined with key ecological factors, notably how natural resources are exploited, how much energy is consumed, and the levels of carbon emissions produced. Their research, which zeroed in on Belt and Road Initiative (BRI) nations, shed light on a rather intricate web of cause-and-effect, where CO_2 emissions, escalating energy demands, resource constraints, and the push for tourism expansion are all deeply entangled.

Ibnou-Laaroussi et al. (2020) developed a theoretical model designed to elucidate the underlying psychological and social mechanisms that influence tourists' participation in green tourism. Their research highlights that the propensity of individuals to engage in environmentally sustainable tourism practices is shaped by a triad of factors: personal attitudes toward sustainability, perceived behavioral control over eco-friendly actions, and normative pressures exerted by society. While their framework provides a comprehensive and methodical approach to understanding pro-environmental tourist behavior, it also implicitly suggests that these determinants are interwoven in ways that may vary across different cultural and situational contexts, underscoring the nuanced nature of sustainable tourism decision-making.Santoso (2020) explored how green Sukuk—a form of Islamic financial instrument—can contribute to sustainable economic development, especially by financing renewable energy initiatives that include green tourism projects, suggesting a vital role for Islamic finance in this sector. Similarly, Hidayat et al. (2020) illustrated how Islamic economic principles can be effectively applied to foster sustainable tourism practices.

Technological innovation has emerged as a pivotal driver for advancing green tourism. Lu et al. (2021) emphasized the importance of energy-efficient smart cities in supporting a sustainable green tourism industry, demonstrating how technological advancements underpin eco-friendly tourism solutions. Thang et al. (2023) examined the factors influencing business investments in green tourism within Vietnam, offering actionable insights for policymakers and enterprises aiming to implement sustainable tourism strategies. Additionally, Sun et al. (2023) employed advanced Generalized Method of Moments (GMM) analysis to unravel the intricate relationship between ecotourism and broader sustainable development goals.

In summary, green tourism is inherently multidimensional, encompassing economic, environmental, social, and cultural dimensions. Future research should continue to explore how policy frameworks, technological progress, and innovative financial instruments can synergistically promote the sustainable growth of green tourism.

2.2 Theory of Planned Behavior

The Theory of Planned Behavior (TPB) has long been recognized as a foundational and influential model for interpreting environmentally related human behaviors (Fauzi et al., 2018). Central to this theory is the proposition that an individual's behavioral intentions emerge from the interplay of three pivotal elements: personal attitudes, the perceived expectations of significant others (subjective norms), and one's perceived control over executing the behavior (PBC). Over the years, a substantial corpus of empirical studies has leveraged the TPB framework to shed light on a wide array of eco-conscious behaviors—ranging from green purchasing and recycling initiatives to the adoption of organic food and other sustainability-oriented practices (Fauzi et al., 2024). It is noteworthy that while TPB offers a structured lens for such investigations, its practical application often reveals subtle complexities, especially when contextual factors or cultural nuances come into play, an aspect sometimes underexplored in quantitative models.For instance, studies based on the extended TPB have investigated factors shaping sustainable tourism intentions among different populations, such as Vietnamese tourists, highlighting the model's flexibility and cross-cultural applicability (Nguyen et al., 2023).

In this research, the Theory of Planned Behavior (TPB) is adopted as the central conceptual lens through which the interrelations among tourists' green purchase attitudes (GPA), green trust (GTR), perceived behavioral control (PBC), and green purchase intention (GPI) are systematically explored. A particular emphasis is placed on dissecting the mediating influence of GPI, which acts as a critical psychological bridge connecting antecedent factors to the actual enactment of green purchase behavior (GPB). This methodological orientation not only provides a robust framework for disentangling the cognitive and affective processes that drive environmentally conscious consumer choices but also situates these dynamics within the specific socio-cultural landscape of Hainan's tourism market. As detailed in Figure 1, the study articulates a rigorously structured model that maps out the nuanced interconnections among these variables, thereby offering both theoretical clarity and practical relevance for advancing sustainable tourism strategies.
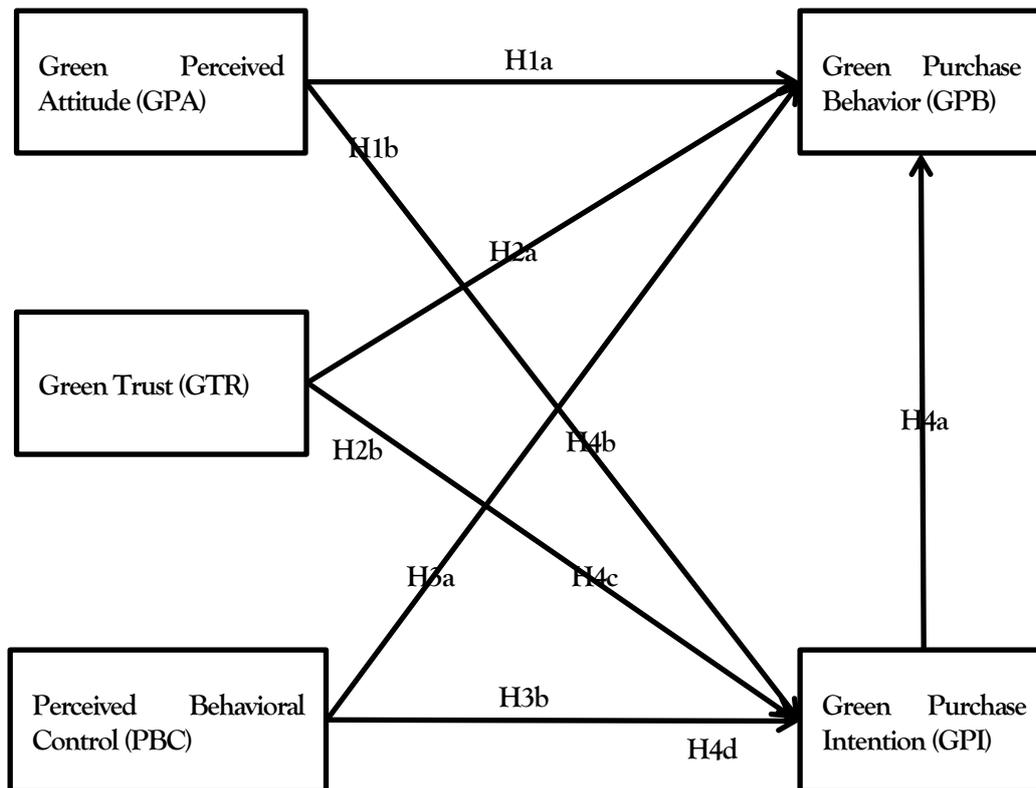

Figure 1. Research Framework

2.3 Green Perceived Attitude

Green Perceived Attitude (GPA) encapsulates how consumers assess and internalize the value of eco-friendly products, services, or behaviors, reflecting their personal interpretations of environmental benefits and sustainability impacts. Numerous studies have underscored that when individuals harbor a strong pro-environmental attitude, they are far more likely to engage in green tourism practices (Kızıldağ & Yıldız, 2024). This attitudinal orientation is widely acknowledged as a pivotal determinant influencing actual purchasing decisions in the ecological market space (Lin et al., 2020). For instance, Liao et al. (2020) conducted a focused investigation involving 319 Cambodian consumers, each with substantial experience—at least one year—in buying green products; their findings revealed that a constructive attitude toward such products markedly amplified the consumers' willingness to opt for eco-conscious purchases. These empirical insights collectively suggest that GPA is not merely a passive perception but an active psychological driver that channels environmental concerns into tangible consumer behaviors.

In a comprehensive synthesis of existing literature, Zaremohzzabieh et al. (2021) unveiled compelling evidence of a robust positive relationship between individuals' green perceived attitudes and their intention to purchase eco-friendly products. Utilizing the analytical capabilities of Comprehensive Meta-Analysis 3.0, their investigation rigorously quantified this link, demonstrating that consumers who hold affirmative views of green products exhibit markedly stronger inclinations toward making environmentally conscious purchases. What stands out in their findings is not merely the confirmation of this association but also the nuanced identification of green perceived value, attitude, and trust as pivotal factors that consistently shape and elevate green purchase intentions. Their meta-analytic approach, drawing on a diverse set of empirical studies, reinforces the growing consensus that psychological and value-based determinants play a central role in steering consumer behavior within the sustainability landscape.

Building on this body of research, Rusyani (2021) explored factors driving consumers' decisions to buy eco-sustainable products and concluded that green attitudes have a robust positive effect on eco-friendly purchasing behaviors. Ogiemwonyi et al. (2023) brought to

light the crucial influence of consumers' affirmative attitudes in driving eco-friendly purchasing behaviors—a trend that appears particularly pronounced among individuals who are becoming progressively more conscious of ecological challenges. Their analysis paints a nuanced picture of how heightened environmental sensitivity reinforces the inclination to opt for green products, emphasizing that such attitudinal shifts are not merely theoretical but visibly reflected in real-world consumer choices. Tan et al. (2022) suggested that green attitudes could be strategically leveraged in brand marketing to enhance consumer purchase intentions.

Building upon these theoretical insights and empirical precedents, the present study articulates two key hypotheses aimed at deepening the understanding of tourist behavior in the green consumption context. Specifically:

H1a: GPA has a significant relationship with tourists' GPB.

H1b: GPA has a significant relationship with tourists' GPI.

2.4 Green Trust

Green Trust (GTR) can be understood as the extent to which consumers are prepared to place confidence in a product, service, or brand, stemming from their belief that its environmental promises are genuine and its sustainability performance is consistent and credible. This multifaceted concept typically encompasses elements such as perceived credibility, environmental benevolence, and ecological competence (Nguyen, 2024). A growing body of literature has consistently linked GTR with heightened green purchase intentions (GPI). For instance, empirical evidence suggests that when consumers possess strong green trust, they are notably more inclined to engage with eco-friendly tourism offerings—green hotels being a prime example (Sultana et al., 2022). Tanveer (2021), through field research focusing on Pakistan's market context, illuminated how trust in green claims significantly elevates consumers' willingness to purchase sustainable products. Furthermore, Amin et al. (2022) emphasized that, among various psychological factors, green trust exerts the strongest influence on green purchase decisions. Reinforcing these findings, Ahmad et al. (2022) analyzed 321 rigorously screened online survey responses and confirmed GTR's pivotal role in shaping eco-conscious buying behavior. Complementing this, Hossain et al. (2022) expanded the discussion by demonstrating that green trust not only enhances purchase intention but also fosters broader pro-environmental attitudes and behaviors, offering a more holistic view of its impact. Furthermore, Rashid et al. (2024) emphasized that green trust positively influences consumers' intentions to purchase organic products, suggesting that trust acts as a moderator between green purchase intention and actual purchasing behavior. Therefore, the following hypotheses are proposed:

H2a: GTR has a significant relationship with tourists' GPB.

H2b: GTR has a significant relationship with tourists' GPI.

2.5 Perceived Behavioral Control

Perceived Behavioral Control (PBC) captures an individual's judgment regarding the ease or difficulty of performing a particular action, encompassing both their confidence in executing the behavior and the extent to which they perceive it as being under their own control (Fawehinmi et al., 2021). Within the domain of green tourism, PBC specifically relates to travelers' perceptions of how feasible it is to visit environmentally sustainable destinations, factoring in both logistical and personal considerations. Extensive prior research has consistently highlighted the pivotal role PBC plays in shaping behavioral intentions within sustainability-focused contexts (Luongo et al., 2023). When it comes to green purchasing behaviors, PBC has emerged as a decisive factor guiding consumers' engagement in eco-conscious buying activities. For example, Kumar et al. (2021), drawing on a diverse respondent pool that included corporate executives and MBA students from India's leading firms and business schools, demonstrated that PBC acts as an independent predictor motivating green purchasing behaviors among Indian consumers. Notably, in Vietnam, PBC was shown to function as a partial mediator between Corporate Social Responsibility (CSR) initiatives and consumers' intentions to buy environmentally friendly products. Expanding on this, Swidi et al. (2021) analyzed green purchase behaviors in several developing nations and reaffirmed the predictive strength of PBC in these markets. Additionally, the work by Nekmahmud et al. (2022) delved into the intersection of social media marketing (SMM), social media usage (SMU), and sustainable consumption, revealing a robust positive linkage between consumers' perceived behavioral control and their intention to purchase green products via social media platforms. Collectively, these findings underscore the multifaceted influence of PBC, suggesting it operates across diverse cultural and technological contexts, shaping not only purchasing intentions but also broader sustainability-aligned consumer patterns. Based on the foregoing discussion, the hypotheses for this research are posited as follows:

H3a: PBC has a significant relationship with tourists' GPB.

H3b: PBC has a significant relationship with tourists' GPI.

2.6 Green Purchase Intention

The robust linkage between green purchase intention and actual green purchasing behavior has been firmly established within the field of sustainable consumption research (Han, 2020; Wijekoon & Sabri, 2021; Saxena & Sharma, 2024). Conceptually, green purchase intention encapsulates consumers' mental preparedness and willingness to pursue environmentally responsible purchases, functioning as a powerful predictor of subsequent purchasing actions. Notably, when individuals express favorable intentions toward green products, the probability of these intentions materializing into concrete buying behaviors rises substantially. This dynamic highlights not only the psychological underpinnings of green consumption but also the strategic importance of fostering positive green purchase intentions to drive sustainable consumer practices. As emphasized in prior studies (Ayad et al., 2021; Wang et al., 2023), strengthening such intentions

offers a critical theoretical lens for dissecting the decision-making mechanisms that guide consumers toward eco-friendly choices in real-world contexts.

Green purchase intention functions as a pivotal mediating factor that weaves together consumers' attitudes toward eco-friendly products, their trust in sustainable brands, and their perceived behavioral control, ultimately shaping actual green purchasing behaviors. Rather than acting as a mere statistical link, this intention serves as the psychological mechanism through which positive perceptions and trust are transformed into concrete pro-environmental actions. In the broader context of sustainable tourism, this mediating role becomes particularly salient, as travelers' attitudes toward green services, their confidence in eco-tourism providers, and their sense of personal agency jointly influence whether intentions translate into meaningful green consumption choices. Understanding this mediation pathway not only deepens theoretical insights into eco-consumer decision-making but also offers practical implications for designing interventions that foster sustainable behaviors across tourism experiences.

In the context of green beauty product consumption, green purchase intention plays a crucial mediating role between consumers' attitudes toward green products and their actual purchasing behavior. Specifically, consumers' environmental concern, positive attitudes, brand knowledge, and perceived value significantly and positively influence their green purchase intentions. These factors enhance consumers' purchase intentions, which, in turn, significantly promote their actual purchase behavior of green beauty products. As a mediating variable, green purchase intention not only connects consumers' attitudes and behaviors but also amplifies the direct influence of environmental concern and attitudes on purchasing behavior, highlighting its indispensable role in driving green consumption behavior (Vania & Ruslim, 2023).

Despite growing scholarly interest, current research still offers only a fragmented understanding of how green purchase intention serves as a full mediator between environmental concern, personal attitudes, and actual green purchasing behaviors (Saleki et al., 2019; Al Mamun et al., 2020; Ruslim et al., 2022). There remains a pressing need for richer empirical exploration to unpack the underlying drivers shaping green purchase intention and to clarify how this intention effectively channels into tangible consumer actions. Notably, Rehman et al. (2019) argue that green purchase intention does more than merely bridge trust and behavior; it amplifies the predictive power of intentions in the broader landscape of sustainable consumption. Moreover, research consistently points to green purchase intention as a linchpin connecting perceived behavioral control to real-world purchasing choices. That is, consumers' sense of agency—how capable they feel of making eco-friendly choices—feeds into their intentions, which in turn shape actual behavior. Importantly, nuanced generational contrasts have emerged: Millennials and Gen Z exhibit distinct patterns in their green purchasing habits, suggesting that both perceived behavioral control and purchase intention must be carefully examined within the context of generational dynamics (Lavuri et al., 2021). These insights collectively call for a more layered, context-sensitive approach to understanding the mechanisms behind sustainable consumer behavior.

To sum up, the body of research paints a compelling picture: Green Purchase Intention (GPI) serves as a pivotal bridge linking consumers' environmental attitudes (GPA), their trust in eco-friendly offerings (GTR), and their sense of control (PBC) to their actual green purchasing behaviors (GPB). It's not merely that consumers think positively or trust brands — it's that these psychological underpinnings crystallize into intention, which then acts as the driving force behind concrete sustainable actions. Particularly within the realm of green tourism, where travelers balance aspirations for meaningful experiences with ecological responsibility, this mediating role of GPI becomes even more pronounced. Understanding how intention transforms into behavior is not just an academic exercise; it's essential for crafting interventions, marketing strategies, and policy tools that truly nudge consumers toward sustainable travel choices and eco-conscious consumption. In line with these insights, the following hypotheses are proposed for further examination:

H4a: GPI has a significant positive effect on tourists' GPB.

H4b: GPI mediates the relationship between tourists' GPA and GPB.

H4c: GPI mediates the relationship between tourists' GTR and GPB.

H4d: GPI mediates the relationship between tourists' PBC and GPB.

3.0 METHODOLOGY

3.1 Research Design

This research embraced a quantitative approach to explore how tourists' Green Perceived Attitude (GPA), Green Trust (GTR), and Perceived Behavioral Control (PBC) shape their Green Purchase Intention (GPI) and, ultimately, their Green Purchase Behavior (GPB) — all within the vibrant and rapidly developing green tourism landscape of Hainan Province, China. To capture real-world traveler sentiments, data collection took place from May to July 2024 using a carefully crafted online questionnaire distributed via Microsoft Forms. Rather than a broad, unfocused survey, the study purposefully targeted individuals who had either recently journeyed to Hainan or were actively planning a visit, ensuring that the responses were steeped in firsthand or anticipated experience. Of the 402 initial submissions, rigorous data cleansing — including checks for incomplete entries, patterned responses, and inconsistencies — led to a refined dataset of 330 valid cases. This solid sample provided a sound empirical foundation for robust hypothesis testing and multivariate analysis, offering valuable insights into the psychological drivers behind sustainable tourist consumption behaviors.

3.2 Measurement Instruments

The survey instrument was developed based on well-established scales drawn from prior research to ensure both validity and reliability. Each construct was operationalized using multi-item measures that have been extensively validated in environmental and consumer behavior research. All items were carefully adapted to the green tourism context in Hainan Province, and responses were captured using a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). The questionnaire underwent a pilot test with 20 participants to refine wording and confirm face validity. Green Perceived Attitude (GPA) was gauged through a four-item scale adapted from Wang, Liu, and Qi (2014), designed to capture how travelers personally evaluate eco-friendly tourism efforts — for example, statements like "I believe green tourism benefits environmental protection" reflect not just abstract opinions but often arise from moments when tourists witness on-site recycling systems or local conservation projects. Green Trust (GTR), following the five-item measure from Chen (2010), probed the depth of travelers' confidence in the environmental promises made by tourism operators, going beyond surface slogans to assess whether tourists genuinely believe in the commitment shown by eco-lodges or nature tour companies (e.g.,"I trust the environmental commitments of green tourism operators"). Perceived Behavioral Control (PBC) was examined using four items drawn from Paul, Modi, and Patel (2016), grounded in the Theory of Planned Behavior, reflecting tourists' sense of autonomy over their choices — think of the traveler who weighs whether selecting a carbon-offset flight or bringing reusable water bottles feels feasible or not ("Whether or not I buy green products is entirely up to me"). Green Purchase Intention (GPI), measured via a five-item scale based on Chen and Chang (2012), focused on the forward-looking willingness of tourists to opt for green tourism services, capturing a mindset oriented toward future action: "I intend to choose green tourism options whenever possible" might echo a visitor's internal vow after experiencing an impactful eco-tour. Lastly, Green Purchase Behavior (GPB) was assessed through a four-item scale from Nguyen, Lobo, and Greenland (2017), targeting actual actions taken — for instance, whether recent travelers have deliberately selected eco-certified accommodations or sustainable local tours, embodying their environmental ideals through concrete choices ("In my recent travel, I have actively chosen eco-friendly accommodations").

The data analysis unfolded following the methodological framework proposed by Henseler, Ringle, and Sinkovics (2009), employing SmartPLS 4 as the analytical tool. To rigorously test the measurement model, we evaluated both reliability and validity, drawing upon multiple indicators. Specifically, Cronbach's alpha was applied to gauge the internal consistency of each construct, while composite reliability (CR) offered a broader sense of the constructs' overall reliability. We further assessed convergent validity through the Average Variance Extracted (AVE), ensuring that each construct adequately captured the variance of its observed variables. Importantly, discriminant validity was verified by applying the Fornell–Larcker criterion: we confirmed that the square root of the AVE for each latent construct surpassed its correlations with all other constructs. This step, often treated as a mechanical threshold check in many studies, was carried out with careful scrutiny to avoid overestimating the distinctiveness of closely related green tourism constructs. By weaving together these layers of statistical validation, the analysis provided a robust foundation for testing the hypothesized relationships within the green purchase behavior framework.

4.0 RESULT

SEM analysis offers an in-depth understanding of the connections among PBC, GTR, GPA, GPI, and GPB in the context of tourists visiting Hainan Province.

4.1 Measurement Model

The assessment of construct reliability yielded Cronbach's alpha coefficients ranging from 0.808 to 0.959, comfortably surpassing the widely accepted benchmark of 0.7. Complementing this, the composite reliability (rho_c) scores, spanning 0.886 to 0.968, reinforced the internal consistency of the measurement model. Notably, the Average Variance Extracted (AVE) values, which lay between 0.534 and 0.891, offered further evidence of solid convergent validity, indicating that the constructs effectively captured the variance of their respective indicators. These statistical confirmations are summarized in Table 1, which lays out the detailed results of the measurement model evaluation. Beyond the raw numbers, these outcomes reflect a rigorously validated measurement framework, providing a reliable foundation for subsequent hypothesis testing within the context of green tourism behavior.

Table 1. Evaluation of the Measurement

Variable	Cronbach's alpha	Composite reliability (rho_c)	AVE	R-square
GPA	0.959	0.968	0.860	
GTR	0.939	0.961	0.891	
PBC	0.808	0.886	0.722	
GPI	0.833	0.961	0.534	0.705
GPB	0.916	0.931	0.602	0.607

4.2 Direct Effects

Table 2 encapsulates the direct influences and delineates the ties between the independent and dependent variables. GPA exhibits specific traits: its substantial and positive direct impact on GPI is evident, emphasizing the influence of attitude on the inclination towards purchasing eco-friendly products. The data underscore the significance of the purchase intent for eco-friendly items.

The analysis reveals a positive and statistically meaningful coefficient linking Green Trust (GTR) to Green Purchase Behavior (GPB), underscoring that GTR exerts a notable direct influence on tourists' propensity to engage in green consumption. Put simply, when travelers visiting Hainan perceive tourism providers' eco-friendly commitments as credible and trustworthy, they exhibit a stronger tendency to translate these perceptions into actual green purchasing actions. This relationship highlights not just a mechanical connection between trust and behavior, but also the psychological reassurance that empowers tourists to align their values with their spending — an especially pertinent insight for the green tourism sector seeking to foster sustainable consumer practices. Trust in the integrity and environmental commitment of these suppliers appears to play a crucial role in translating tourists' trust into actual GPB. In contrast, the coefficient of the relationship between GTR and GPI is not significant, indicating that GTR has no significant effect on the formation of intention. This insignificance may mean that while trust in green tourism suppliers may directly affect green product purchasing behavior, it does not necessarily affect tourists' pre-purchase intentions or attitudes toward green purchasing. There may be other factors at play in the formation of GPI that are not captured by GTR, such as personal values, past experiences, which may be more influential in shaping tourists' intention to purchase green products in Hainan. This indicates that trust in providers of green tourism affects actions rather than GPI.

Table 2: Direct Effect

	Original sample	Sample mean	P values	Standard deviation	T statistics
GPA -> GPB	-0.107	-0.105	0.249	0.093	1.153
GPA -> GPI	0.500	0.493	0.000	0.071	7.048
GPI -> GPB	0.365	0.359	0.008	0.137	2.674
GTR -> GPB	0.249	0.249	0.027	0.112	2.210
GTR -> GPI	0.025	0.037	0.830	0.118	0.215
PBC -> GPB	0.288	0.291	0.007	0.107	2.688
PBC -> GPI	0.385	0.382	0.000	0.105	3.658

Table 3 presents the pathways through which the independent variables exert indirect influence on Green Purchase Behavior (GPB) via Green Purchase Intention (GPI). Interestingly, the data reveals that green trust (GTR) does not exert a statistically significant effect on GPB through GPI. This finding suggests that trust operates as a direct driver of consumer behavior, bypassing the intermediary stage of purchase intention — in other words, when tourists hold strong confidence in the environmental credibility of tourism providers, they may proceed straight to action without the cognitive detour of reflective intention.

In contrast, the analysis underscores the pivotal mediating role of GPI in the links between Perceived Behavioral Control (PBC) and GPB, as well as between Green Perceived Attitude (GPA) and GPB. Here, intention functions as a crucial psychological bridge: tourists' sense of agency and their evaluative stance toward green practices shape their readiness **to act, but it is the crystallization of these into concrete** intention that ultimately propels green purchasing behaviors. The evidence paints a layered picture — one where trust cuts directly to behavior, while attitude and perceived control mold behavior through the decisive formation of intention.

Table 3: Specific Indirect Effect

	Original sample	Sample mean	Standard deviation	T statistics	P values
GTR -> GPI -> GPB	0.009	0.014	0.046	0.200	0.841
PBC -> GPI -> GPB	0.141	0.137	0.065	2.175	0.030
GPA -> GPI -> GPB	0.183	0.176	0.072	2.534	0.011

Table 4 summarizes the cumulative effects. Notably, the overall effect of GPA on GPB is not statistically significant when all possible pathways are considered. This suggests that while a positive attitude toward green purchasing may not directly or indirectly motivate this behavior itself. The significant effect of GPA on GPI is further strengthened by the significant effect of GPI on GPB, indicating that intention is a key mediator between attitude and behavior.

When it comes to green trust (GTR), the data reveals a noteworthy direct impact on Green Purchase Behavior (GPB), underscoring that tourists' confidence in eco-friendly practices meaningfully shapes their real-world purchasing choices. Yet, intriguingly, GTR's influence on Green Purchase Intention (GPI) appears negligible ($\beta = 0.025$, $p = 0.830$), hinting that trust can bypass intention altogether, leading travelers to act instinctively rather than reflectively.

In contrast, Perceived Behavioral Control (PBC) emerges as a robust predictor across both intention and behavior, with significant effects observed on GPI (β = 0.385, p < 0.001) and GPB (β = 0.428, p < 0.001). This dual influence signals that a tourist's sense of agency — their belief in their capacity to choose green options — does not merely shape how they think but tangibly alters how they act. The prominence of PBC within these pathways highlights the critical role of self-efficacy: when individuals feel empowered to make eco-conscious choices, they are not only more inclined to intend such actions but also far more likely to translate these intentions into actual pro-environmental behaviors.

Table 4: Total Effect

	Original sample	Sample mean	Standard deviation	T statistics	P values
GPA -> GPB	0.076	0.071	0.086	0.882	0.378
GPA -> GPI	0.500	0.493	0.071	7.048	0.000
GPI -> GPB	0.365	0.359	0.137	2.674	0.008
GTR -> GPB	0.258	0.263	0.118	2.188	0.029
GTR -> GPI	0.025	0.037	0.118	0.215	0.830
PBC -> GPB	0.428	0.428	0.111	3.858	0.000
PBC -> GPI	0.385	0.382	0.105	3.658	0.000

The SEM analysis of green tourism in Hainan Province in the figure 2 reveals that GPA significantly boosts GPI, but not directly GPB.GTR influences GPB (β = 0.249, p = 0.027) without affecting GPI, indicating its role in behavior independent of intentions. Perceived behavioral control (PBC) enhances both GPI and GPB, underscoring its pivotal role in decision-making. The significant indirect effects of PBC and GPA on GPB through GPI (β = 0.141 for PBC, p = 0.030; β = 0.183 for GPA, p = 0.011) highlight intentions as a crucial link. This analysis is vital for Hainan's sustainable tourism, suggesting that fostering positive attitudes, trust, and perceived control can effectively promote green purchasing behaviors. These help understand the psychological factors that drive green tourism behaviours and offer insights for policymakers and tourism operators in Hainan Province aiming to promote sustainable tourism practices.
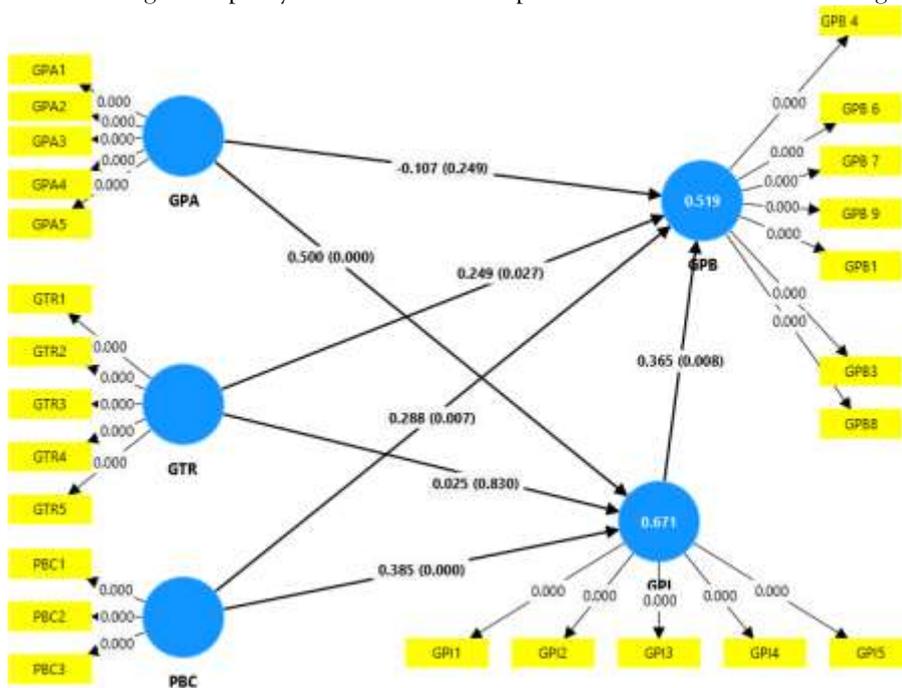

Figure 2. Path Diagram

5.0 DISCUSSION

This research sheds fresh light on the complex web of contextual and psychological forces that shape tourists' environmentally conscious purchasing behaviors and intentions in the unique setting of Hainan. Beyond simply confirming established patterns, the study expands the dialogue around sustainable tourism by blending the Theory of Planned Behavior (TPB) with the green consumer behavior framework — an integration that emphasizes how pivotal constructs like Perceived Behavioral Control (PBC), Green Trust (GTR), and Green Perceived Attitude (GPA) jointly fuel sustainable choices. Yet, the findings do not present a tidy, one-dimensional picture; rather, they expose layers of tension, ambiguity, and even contradiction within these behavioral pathways. This messiness invites a more sophisticated,

context-sensitive approach to both academic investigation and the crafting of marketing strategies for green tourism, echoing calls in the literature for deeper exploration (Han et al., 2019; Higham & Miller, 2018).

5.1 GPA and GPB

The findings reveal that while GPA positively influences GPI, GPI does not directly affect GPB, aligning with previous studies. Zaremohzzabieh et al. (2021) emphasized the mediating role of consumer attitudes in shaping GPI, consistent with our results. However, the absence of a direct link between GPA and GPB echoes the widely discussed attitude-behavior gap (Vermeir & Verbeke, 2006). This gap is particularly pronounced in tourism contexts where consumers face situational constraints, such as limited availability of green products (Font & McCabe, 2017). This underscores the necessity of bridging intention and behavior through practical enablers like product accessibility and ease of purchase (Kollmuss & Agyeman, 2002).

5.2 GTR and GPB

The findings of this research underscore the powerful role that Green Trust (GTR) plays in shaping actual green purchasing behavior (GPB), revealing a particularly noteworthy dynamic: the connection from GTR to Green Purchase Intention (GPI) (H2b) suggests that, in many cases, trust bypasses intention altogether, driving behavior directly. This pattern suggests that when tourists place confidence in the environmental credibility of products or services, they may leap straight into action without pausing to form deliberate intentions — a phenomenon that mirrors the conclusions of Roh, Seok, and Kim (2022). Moreover, this outcome resonates deeply within the tourism sector, where asymmetrical information about green credentials amplifies the weight of trust, making it a linchpin for influencing sustainable choices (Han, Yu, & Kim, 2019).

5.3 PBC and Its Effects on GPI and GPB

As expected, Perceived Behavioral Control (PBC) emerges as a pivotal driver influencing both tourists' intentions (GPI) and their actual green purchasing behaviors (GPB), reaffirming its foundational role in the architecture of sustainable consumption choices (Ajzen, 1991). What this study makes particularly vivid is how practical factors — such as the availability of eco-friendly services, ease of access, and clear communication of environmental benefits — can either pave or block the road to green action (Zhang et al., 2020). Picture a traveler standing at the crossroads between convenience and conscience: when they feel empowered and equipped (β = 0.141, p = 0.030), their pro-environmental intentions are far more likely to materialize into concrete decisions. This interplay between self-efficacy and action echoes findings by Han and Hyun (2018), who observed similar patterns among guests engaging with eco-conscious hotel initiatives.

5.4 Mediating Role of GPI

Green Purchase Intention (GPI) serves as the critical bridge connecting Green Perceived Attitude (GPA) and Perceived Behavioral Control (PBC) to Green Purchase Behavior (GPB), effectively transforming underlying attitudes and perceived capabilities into real-world purchasing actions. However, no mediation was found between GTR and GPB (H4c), suggesting that trust exerts a direct impact. This finding is particularly relevant in green tourism, where consumer confidence in environmental claims is a decisive factor for behavior (Cheng, Lam, & Hsu, 2006).

5.5 Implications for Practice

The findings point toward the necessity of adopting a multifaceted approach to advance green tourism in Hainan. Rather than relying solely on boosting favorable consumer attitudes or amplifying their sense of control, it is the cultivation of deep-seated trust in eco-friendly offerings that emerges as pivotal. To resonate with tourists, green marketing efforts should go beyond surface-level environmental claims, weaving together narratives of product authenticity, verified sustainability credentials, and transparent practices. Moreover, providing travelers with straightforward, actionable guidance—whether through accessible tools, clear labeling, or on-site prompts—can empower them to make eco-conscious decisions confidently and effortlessly, thereby reinforcing both intention and behavior (Han et al., 2011).Moreover, improving the availability and visibility of eco-friendly options—such as integrating green certifications and facilitating easy access—can help close the attitude-behavior gap and foster sustainable consumption within the tourism industry (Gössling & Hall, 2019).

6.0 Conclusion

This research sheds fresh light on the underlying forces that steer green purchase behavior (GPB) in the specific setting of eco-tourism in Hainan — a region often celebrated as one of China's flagship models for sustainable tourism. Moving beyond conventional models, the study creatively blends the Theory of Planned Behavior (TPB) with green consumer behavior perspectives to investigate how tourists' Green Perceived Attitude (GPA), Green Trust (GTR), and Perceived Behavioral Control (PBC) come together to shape not just their intentions (GPI), but also their concrete eco-friendly actions. What's particularly striking in the Hainan context is how these psychological and contextual factors interplay on the ground, where tourists face real-world choices amid a landscape marketed as both pristine and responsible.

The results reveal a notable positive correlation between GPA and GPI, emphasizing that tourists coming to Hainan tend to exhibit a generally favorable outlook on eco-friendly tourism offerings. Yet, aligning with the well-established attitude-behavior gap (Vermeir & Verbeke, 2006), these favorable attitudes do not automatically convert into actual purchasing actions (GPB). This gap suggests that while visitors may express interest in sustainable products, their willingness to make purchases is influenced by factors beyond mere attitudes, signaling a more complex dynamic at play. This implies that while green tourism marketing can effectively shape tourists' intentions

through fostering positive attitudes, further interventions are needed to transform these intentions into real behaviors—such as enhancing service convenience and ensuring visible environmental benefits (Kollmuss & Agyeman, 2002).

The research further affirmed that PBC exerts a substantial positive influence on both GPI and GPB. This finding underscores the critical role that tourists' confidence in their ability to participate in sustainable consumption plays. For instance, the ease with which they can interpret eco-certifications or identify green hotel alternatives seems to be central in shaping their intentions and subsequently driving actual behavior. In other words, when tourists feel equipped to make green choices, their intentions to engage with eco-friendly options and their likelihood of following through with those intentions increase significantly. This aligns with the foundational TPB model (Ajzen, 1991) and is particularly relevant in Hainan's tourism ecosystem, where logistical ease and service transparency are crucial to consumer empowerment.

Notably, GTR was found to directly affect GPB without significantly influencing GPI, reflecting that trust in eco-tourism products (e.g., credibility of green certifications or reliability of eco-friendly accommodations) is a critical determinant of actual purchase behavior. This outcome is aligned with research emphasizing the power of trust in closing the gap between intention and action in sustainable markets (Roh, Seok, & Kim, 2022).

Importantly, GPI emerged as a key mediator between GPA and GPB, as well as between PBC and GPB, highlighting the vital bridge that intention forms in driving real-world green consumer behavior. However, the absence of a mediating effect between GTR and GPB suggests that trust alone can bypass intention, acting as a direct enabler of eco-friendly consumption.

In summary, this study underscores that fostering green tourism in Hainan requires a multi-pronged strategy: building positive consumer attitudes, enhancing tourists' perceived control through infrastructural and informational support, and solidifying trust via transparent eco-certifications and service assurances. Practical measures could include targeted subsidies for green tourism operators, widespread promotion of eco-certification programs, and policy-driven initiatives to make green tourism options more accessible and affordable. By addressing these factors, Hainan can strengthen its position as a leading model for sustainable tourism, while aligning with broader global sustainability agendas (Font & McCabe, 2017; Gössling & Hall, 2019).

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