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How Does Consumers' Green Brand Awareness Affect Their Willingness to Pay a Premium for Green Products? The Mediating Role of Green Brand Loyalty and the Moderating Role of Green Perceived Risk

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Abstract

In developing markets characterized by pervasive information asymmetry and sophisticated greenwashing practices, promoting sustainable consumption requires moving beyond basic brand recognition to securing genuine financial commitment. Integrating S-O-R theory, perceived risk theory, and information economics, this study develops a comprehensive consumer brand equity model to examine how cognitive brand signals translate into economic and financial sacrifice. Specifically, it investigates the mediating role of green brand loyalty and the moderating role of green perceived risk in shaping consumers' willingness to pay a premium. Utilizing PLS-SEM on 556 valid survey responses from green fashion consumers, the empirical results indicate that green brand awareness is the single strongest driver of green brand loyalty, yet its direct effect on willingness to pay a premium is comparatively weak. Contrary to initial expectations, green perceived risk does not significantly moderate the relationship between green brand loyalty and willingness to pay a price premium. This suggests that established brand loyalty alone is insufficient to buffer against consumer skepticism or environmental uncertainty when perceived risks are prominent. These findings advance green marketing literature by demonstrating that willingness to pay a premium is an affect-driven economic output rather than a direct derivative of brand visibility, offering actionable strategies to help green brands mitigate greenwashing concerns while sustaining premium pricing.

Keywords: green brand awareness; willingness to pay a premium; green brand loyalty; green perceived risk; greenwashing; green consumption; corporate social responsibility

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1. Introduction

Recently, the rapid escalation of corporate greenwashing, the practice of conveying false or misleading claims about environmental benefits, has fostered widespread skepticism among consumers [1]. As sustainable marketing becomes saturated with unverified "eco-friendly" claims, environmental responsiveness is no longer a unique selling proposition, but a fundamental baseline expectation [2]. This widespread skepticism heightens consumers' green perceived risk, the psychological apprehension of being misled regarding

a brand's actual environmental impact [3]. Under heightened economic pressures and cost-of-living constraints, green perceived risk presents a formidable barrier to sustainable consumption. Although contemporary consumers show a baseline willingness to pay a premium of 9.7% to 12% for genuinely sustainable products [4], high green brand awareness does not translate into sales when brands cannot effectively mitigate green perceived risk [5]. This dynamic is particularly acute among Generation Z, who possess expanding global purchasing power and exhibit strong preferences for sustainable products, yet remain highly prone to boycotting brands suspected of environmental dishonesty [6,7].

Although extensive research demonstrates that favorable green brand awareness positively influences green brand loyalty and purchase intentions [8,9], significant theoretical ambiguities remain. First, while prior literature identifies perceived value and environmental beliefs as primary drivers of loyalty [10,11], limited empirical attention has examined how green brand awareness directly and indirectly translates into consumers' willingness to pay a premium through the mediating mechanism of green brand loyalty. Second, while functional risk and greenwashing concerns are known to erode consumer trust [12,13], the complex moderating boundary conditions of green perceived risk across these relationships remain unexamined. Specifically, it remains unknown whether high levels of green perceived risk can neutralize the positive effects of brand perception and loyalty on willingness to pay a premium. To address these gaps, this study proposes a novel, holistic framework that bridges three key theoretical perspectives: information economics, the Stimulus-Organism-Response model, and perceived risk theory. It illustrates how signal-driven cognitive processing and internal psychological commitment motivate consumers to pay a premium for green brands. Furthermore, the model incorporates the boundary conditions of environmental uncertainty, explaining when and how consumer skepticism inhibits this mechanism.

To test our theoretical framework, this study focuses on Vietnam's green fashion industry. While the underlying theoretical model applies broadly to sustainable consumer goods, green fashion provides an exemplary context. Fashion is a high-involvement, frequently purchased category characterized by rapid product cycles, intense vulnerability to greenwashing, and severe information asymmetry regarding supply chain transparency. Insights from this context offer a prime example of rapidly growing and highly participatory sectors within sustainability. We believe that Vietnam is addressing a research context that is both significant and timely, for the following reasons. In particular, Vietnam is transforming from a low-cost labor economy to a high-value, sustainable one [14]. On one hand, the "EU Digital Product Passport", which is compulsory for textiles, requires the full lifecycle traceability of a garment [15]. On the other hand, Vietnam's manufacturers encounter enormous pressure to prove their "greenness." If consumers (especially domestic ones) are aware of any green perceived risk or lack of transparency, Vietnam's brands will lose their "ticket" to the global market. Whereas in places where "fake goods" have been a concern, the risk of a product not being "truly green" is a much stronger deterrent than in Western markets [16]. Therefore, the current research is essential because it examines green perceived risk, which is likely the culprit.

By addressing these theoretical and contextual imperatives, this study offers two principal contributions. Concerning the academic literature, this research synthesizes the stimulus-organism-response framework, perceived risk theory, and information economics into an integrated conceptual model. It clarifies the boundary conditions of green marketing by showing how green perceived risk attenuates the relationship between green brand awareness, customer loyalty, and premium pricing behaviors. In practical terms, this study offers an actionable strategic framework for marketing managers in emerging economies. It provides concrete guidance on designing credible "green signals," mitigating consumer

skepticism, overcoming price-barrier hesitancy, and establishing resilient brand loyalty in international and domestic markets.

2. Theoretical Background and Development of Hypotheses

2.1. Theoretical Background

2.1.1. Perceived Risk Theory

Perceived risk theory argues that consumers often prioritize minimizing anticipated risk over maximizing expected utility or positive outcomes [17]. It explains how consumers' desire to minimize uncertainty influences their purchasing behavior, particularly for green products. The high levels of perceived risk often lead consumers to avoid making a purchase [18]. The theory classifies risk into different types that impact an individual's overall perception of a product or service. They are performance risk, financial risk, psychological risk, social risk, physical risk, and temporal risk. Performance risk is the concern that a product or service will not satisfy expected outcomes or functional requirements. Financial risk is the possibility of material loss or that the purchase does not provide worthwhile financial gains. Psychological risk is negative emotions, anxiety, or psychological discomfort experienced after a purchase. Social risk is the fear that a purchase will decrease reputation or social esteem among peers. Physical risk is the possibility of a health hazard or physical harm resulting from the product. Temporal risk is the potential for a wasteful expenditure of time during the purchase process [19].

In the context of green marketing, green perceived risk is defined as the "expectation of negative environmental consequences associated with purchase behavior" [18]. Practices such as greenwashing and misleading claims about a product's environmental impact explicitly generate green perceived risk and give rise to consumers' skepticism towards such claims [16]. In addition, the imperfect and asymmetrical nature of the information consumers are exposed to in the market presents an additional challenge to identifying products with genuine sustainability [20]. Unless marketers effectively mitigate green perceived risk (uncertainty) through awareness, consumers will not perceive the added value as necessary to justify a premium price. In light of this, the study examines green perceived risk as a moderating factor in the relationship between consumers' loyalty to or awareness of green brands and their willingness to pay a premium for them.

2.1.2. Theory of Information Economics

Arrow [21] employed the theory of information economics in explaining consumers' behaviors when faced with uncertainty and asymmetric information in the marketplace, particularly regarding the environmental impact of products. Because consumers cannot assess the exact outcome of a purchase, they remain uncertain about product quality and perceive their decisions as risky. This issue is particularly common in the green markets, where firms may count on misleading or ambiguous "greenwashing" claims [16]. In information economics, such information asymmetry stimulates consumers to search for signals that help reduce uncertainty [22]. From this perspective, the current study treats brand awareness as a signaling mechanism. That is, the high levels of brand awareness serve as a "strong signal" of a brand's stellar reputation and strong commitment to sustainability. As their awareness increases, consumers are more likely to be loyal to the brand and to recommend it to others, even when they encounter competing promotions. Moreover, when a brand is widely recognized, consumers tend to invest less effort in verifying its environmental claims, which makes them more willing to accept higher prices [23].

2.1.3. Stimulus-Organism-Response (S-O-R) Theory

This theory proposes that certain features of an environment influence an individual's emotion and state of mind, which in turn lead to behavioral adjustment [24]. The S-O-R theory has been widely applied in the studies of advertising, website experiences, and various other contexts within consumer behavior research [25,26]. This empirical study model is based on S-O-R theory. Stimulus (S): Green brand awareness serves as the external informational stimulus, establishing top-of-mind presence and signaling a brand's environmental commitment. Organism (O): Green brand loyalty serves as the internal emotional anchor and affective commitment (the psychological state generated inside the consumer). Consumers develop a psychological commitment and emotional attachment to the brand. Response (R): The willingness to pay a premium is the final behavioral response. Loyal customers are less price-sensitive and willing to pay more for a well-known brand they love, even when similar-quality products are available at lower prices.

Instead of treating the theories as separate silos, we synthesize them into a single, cohesive mechanism in which S-O-R acts as the structural backbone, information economics as the informational mechanism, and perceived risk theory as the boundary condition. S-O-R theory provides the overarching macro-structure that maps the consumer decision-making journey: Stimulus (green brand awareness)-Organism (green brand loyalty)-Response (willingness to pay a premium). However, S-O-R alone is a broad psychological template; it does not explain why a green stimulus possesses value or when the internal state fails to trigger the behavioral response. Information economics theory fills the S-O-R gap. It explains how green brand awareness functions as a credible market signal that reduces information asymmetry and search costs, thereby creating the cognitive foundation required to foster internal green brand loyalty. While information economics explains value creation through positive signaling, perceived risk theory introduces the counter-mechanism: corporate greenwashing generates noise that distorts signals, giving rise to green perceived risk. Green perceived risk acts as a psychological filter/moderator that determines whether internal loyalty successfully translates into financial sacrifice.

By integrating these three paradigms, our study offers two primary theoretical insights that go beyond individual theories or simple direct-effect models. The dual-signal mechanism: traditional information economics assumes that signaling reduces information asymmetry linearly. By integrating perceived risk theory into S-O-R, this study demonstrates that in green marketing, signaling is non-linear. Green brand awareness acts as the intended signal, but green perceived risk acts as market noise. In this context, it reveals that high signal-to-noise can systematically neutralize or attenuate the positive behavioral outcome even when the internal psychological state is high. Standard S-O-R applications often assume a smooth, positive flow from organism to response. This integrated model identifies green perceived risk as a negative boundary condition that disrupts the organism-to-response pathway. This integration provides a theoretical explanation for the well-known "Green paradox", loyalty is a necessary but insufficient condition for premium pricing when green perceived risk crosses a critical threshold.

2.2. Development of Hypotheses

2.2.1. Green Brand Awareness and Green Brand Loyalty

The relationship between green brand awareness and green brand loyalty is characterized by a positive, multi-faceted connection, with awareness serving as a foundational driver of loyalty [27]. High levels of brand awareness can lead to greater customer loyalty because consumers often choose only familiar, well-known brands [28]. Awareness is a prerequisite for consumers' choice of green products. High brand awareness increases the likelihood that a brand will be chosen. This is because consumers generally prefer

familiar, well-known brands to unknown ones. By establishing this initial "top-of-mind" presence, awareness creates the first link in the chain toward long-term loyalty [29]. According to information economics theory, green brand awareness serves as a "strong signal" of a brand's commitment and reputation [30]. By being well-known, a brand reduces the "information costs" for the consumer. When consumers feel they know a brand well, their perception of risk decreases, encouraging them to stick with that brand rather than risk switching to a competitor [31]. Awareness signals the brand owner's environmental commitment, fostering a psychological bond, or "spiritual gratification," in consumers. Awareness increases the likelihood that consumers will insist on purchasing the same brand and recommend it to others, even when faced with competing promotional efforts [32]. By lowering information search costs and mitigating perceived performance uncertainty, awareness allows consumers to adopt a recognition heuristic. This heuristic minimizes cognitive effort and perceived risk, directly driving repeat purchase intention and behavioral loyalty without necessitating re-evaluation during every purchase cycle. For this very reason, while awareness triggers the initial link in the decision chain, it can directly drive loyalty through heuristic processing and risk-reduction signaling; this study proposes the following hypothesis:

H1. *Green brand awareness has a positive influence on green brand loyalty.*

2.2.2. Green Brand Awareness and Willingness to Pay a Premium

In prior literature, the mechanism linking green brand awareness to willingness to pay a premium for green products has predominantly been conceptualized as an indirect relationship, operating via intermediaries such as risk reduction, brand equity, or customer loyalty [7,33]. While not dismissing these indirect pathways, we argue for a distinct, direct effect of green brand awareness on consumers' premium valuation that operates independently of brand loyalty.

According to signaling theory, green brand awareness serves as a salient, low-cost heuristic signal that quickly reduces asymmetric information [34]. In green markets where consumers face high search costs and pervasive concerns over greenwashing a highly recognizable green brand inherently signals organizational legitimacy, environmental compliance, and superior credibility [35]. This cognitive signaling creates an immediate valuation effect, prompting consumers to pay a price premium to mitigate uncertainty and transaction risk at the point of purchase. Importantly, this mechanism operates independently of any pre-existing emotional bond or long-term behavioral loyalty toward the brand.

From a bounded rationality perspective, high brand awareness prompts intuitive cognitive shortcuts (heuristic processing). The immediate familiarity and perceived authority embedded in a recognized green brand lower the consumer's threshold for price sensitivity right at the evaluation stage [36]. Thus, while brand loyalty reflects an accumulated relational equity over time, green brand awareness directly yields a premium valuation by acting as an immediate proxy for trust and risk mitigation. Accordingly, from this reasoning, the following is hypothesized:

H2. *Green brand awareness has a positive influence on willingness to pay a premium for green products.*

2.2.3. Green Brand Loyalty and Willingness to Pay a Premium

Loyalty reflects consumers' willingness to pay extra for a well-known brand they love, even when cheaper alternatives are available [37]. Loyal consumers are generally less

price-sensitive and are willing to allocate a larger portion of their income to a company's products [38]. Consumers may pay a premium for "hedonic involvement" with a specific brand, which includes psychological and spiritual gratification derived from their loyalty and identification with the brand's values [39]. Consumers' willingness to pay a premium indicates that a brand is perceived as strong and competitive, often resulting directly from high levels of brand loyalty and brand equity [40]. In low-to-moderate risk environments, brand loyalty acts as a cognitive filter that attenuates the immediate negative impact of green perceived risk on purchase intentions. Loyal consumers are generally more willing to give the brand the benefit of the doubt, absorbing minor perceived uncertainties about the product's environmental performance while still paying a premium [41]. Moreover, loyal consumers typically show little or no intention of switching to alternative brands or suppliers. This enables companies with a highly loyal customer base to sustain higher prices without losing their customer base to competitors [42]. From a utility perspective, loyal consumers derive dual utility: functional utility and psychological utility. This elevated total utility lowers price elasticity of demand, enabling consumers to incur a financial sacrifice to maintain their cognitive consistency and emotional attachment to the brand. Following these arguments, we propose the following hypothesis:

H3. *Green brand loyalty has a positive influence on willingness to pay a premium for green products.*

2.2.4. The Mediating Role of Green Brand Loyalty

According to Chang and Chen [43], awareness serves as a clear signal of brand owners' commitment to their environmental responsibilities. This signal helps consumers move from simple recognition to the psychological attachment that underlies loyalty. Once loyalty is established, customers are collectively less sensitive to price increases [38]. Therefore, willingness to pay a premium can be seen as an outcome of loyalty. The research examines brand loyalty as one of the three key factors, together with social value and brand emotion, that promote consumers' willingness to pay higher prices [44]. In green consumption, green brand loyalty represents a strong commitment to purchasing and recommending environmentally friendly products to other people, which helps justify the green premium—the additional price paid for environmental merits [45]. Furthermore, the greater the brand awareness, the more likely consumers are to choose the brand, thereby strengthening customer loyalty [46]. Awareness acts as an initial signal, reducing information asymmetry. This signal fosters brand trust and psychological attachment, which subsequently translates into financial sacrifice. Loyalty serves as the explanatory bridge that transforms reduced uncertainty into economic commitment. Based on these arguments, the study proposes the following hypothesis:

H4. *Green brand loyalty mediates the relationship between green brand awareness and willingness to pay a premium for green products.*

2.2.5. The Moderating Role of Green Perceived Risk

Green brand awareness serves as a strong signal that reduces consumer uncertainty and helps shape brand loyalty [47]. A successful mitigation of green perceived risk, or consumers' expectations of potential negative environmental consequences, can bridge awareness and the willingness to pay a premium (the expectation of negative environmental consequences) [48]. Regarding its direct negative effect, green perceived risk, or the expectation of potential negative environmental consequences associated with a purchase, acts as a major barrier to favorable consumer responses [49]. Consumers may opt to avoid a brand altogether if they perceive a purchase to be high risk [50]. Based on perceived risk

theory, consumers prioritize minimizing potential risk over maximizing expected utility or value, such as a product's environmental benefits [51]. Although green brand awareness generally positively affects consumers' willingness to pay a premium, this relationship weakens when perceived green risk is high [52]. When consumers are uncertain about a brand's actual environmental performance (high performance risk), they become more cautious with their spending and are less likely to accept a price premium [53]. In particular, information economics theory asserts that, because consumers possess asymmetric information, greater awareness is needed to reduce uncertainty. If awareness does not successfully mitigate perceived risk (uncertainty), consumers will not perceive the "added value" needed to justify a premium price [23]. In other words, when green perceived risk reaches critical levels, such as heightened consumer skepticism about greenwashing, it acts as cognitive noise that overrides the emotional assurance provided by brand loyalty. In high-risk scenarios, risk does not merely coexist with loyalty; it degrades the trust foundation underpinning loyalty, ultimately impeding the conversion of awareness and loyalty into acceptance of premium pricing. Based on the above analysis, the study proposes two final hypotheses:

H5. *The effect of green brand loyalty on willingness to pay a premium for green products is negatively moderated by green perceived risk.*

H6. *The effect of green brand awareness on willingness to pay a premium for green products is negatively moderated by green perceived risk.*

Our conceptual model is illustrated in Figure 1.

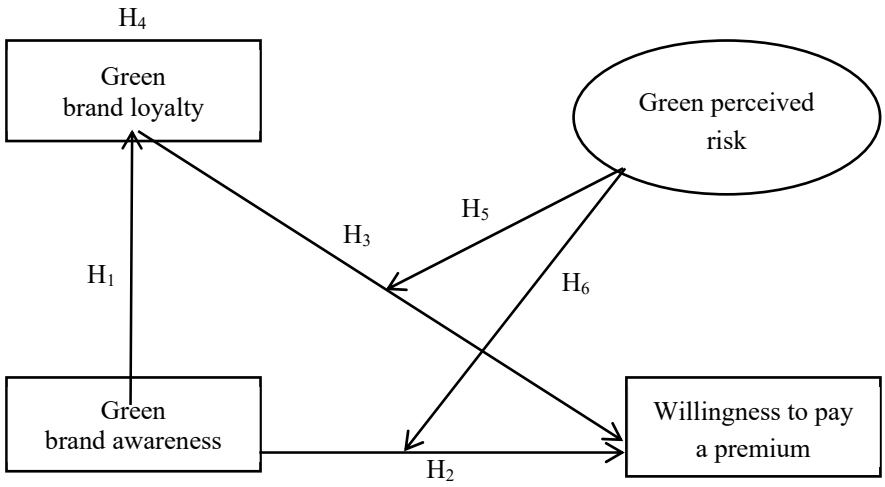


Figure 1. Conceptual model. Source: Authors' proposal.

3. Research Methodology

3.1. Research Measures

The questionnaire was developed to examine the impact of green brand awareness (GBA), green brand loyalty (GBL), and green perceived risk (GPR) on consumers' willingness to pay a premium price for green products (WTP). Within the proposed framework, GBL functions as a mediating variable, whereas GPR acts as a moderating factor. The questionnaire is designed to collect empirical data to test the theoretical model and provide scientific insights into consumer behavior towards green fashion.

To ensure clarity and comprehensibility for respondents, the questionnaire used measurement items adapted and extended from previous studies, with contextual modifications

appropriate to Vietnam. Before the official survey, several experts in marketing and green fashion evaluated a preliminary version of the questionnaire to assess surface validity. Their feedback focused on wording, clarity, and the appropriateness of the measurement items, ensuring that respondents could complete the survey easily and that the collected data would be reliable. Regarding the scales of measurement, the authors adopted constructs from prior research and made some adjustments. Green brand awareness is measured using five observed variables adapted from Percy and Rossiter [54], Keller [55], Aaker [56], and Yoo and Donthu [57], representing consumers' ability to recognize, recall, and associate fashion brands with green commitments. Green brand loyalty comprises four observed variables from Chen et al. [58], which capture customers' attachment to green fashion brands, repurchase intent, and willingness to recommend these brands to others. Willingness to pay a premium for green products comprises four observed variables from Laroche et al. [59] that measure the extent to which consumers are prepared to accept higher prices for environmentally friendly fashion products. Green perceived risk is measured with five observed variables from Chen and Chang [8] and Peter and Ryan [60], representing consumers' concerns about environmental safety, health protection, and the ecological effectiveness of green fashion products.

3.2. Data Collection

The respondents include Vietnamese consumers who have previously purchased and/or used green fashion products (confirmed through the screening question). A purposive-convenience sampling strategy targeting a specialized, low-incidence population rather than an arbitrary sample. This sampling method was used via an online survey, as only a small proportion of Vietnamese consumers had experience with green fashion products. Therefore, finding them in the general population was really difficult. In addition, distributing the questionnaire online to communities interested in green or sustainable fashion via social media platforms helped the researchers reach respondents quickly and efficiently, with a relatively broad reach. Before the official survey began, the questionnaire's introduction outlined the survey's purpose and content, stating that respondents' personal information would be kept confidential and used solely for this research. Participation is entirely voluntary. The sample consists primarily of female university students or recent graduates entering the workforce. Morgan [61] recommended that for a population above 1,000,000, a minimum of 384 respondents is required to achieve 95% confidence with a 5% margin of error. For this study, 651 responses were gathered by June 2025. After screening, 556 responses were valid. This figure exceeds the suggested minimum sample size, providing a reliable basis for the statistical analyses in the following sections.

3.3. Data Analysis

SPSS v.20 was employed for initial data processing and preliminary tests. Subsequently, SmartPLS 4 was used to analyze the main dataset. The analytical procedure was implemented in multiple stages to ensure reliable results with a sound scientific foundation.

This study conducted the EFA as a preliminary validation step because we adapted measurement scales from English-language studies, translated them into Vietnamese, and contextually adjusted them for Vietnamese consumers in the green fashion context. Although prior research established the original scales, differences in cultural, linguistic, and contextual settings may affect how respondents interpret items and how the underlying factor structure manifests in a new research context. Therefore, EFA was employed to examine whether the adapted and translated items retained the expected factor structure and to identify any potential deviations before proceeding to the PLS-SEM analysis. This procedure helped ensure that the measurement instruments were appropriately adapted

to the research context and provided an adequate basis for subsequent assessment of the measurement and structural models. The results indicated that all observed variables met the required criteria for internal consistency and factor structure, and no items were excluded from the measurement model. Accordingly, the research model retained all 18 observed variables across the four constructs as originally proposed. In addition, ANOVA tests examined potential differences among demographic groups on the research variables. In addition, we assessed common method bias (CMB) using a full collinearity assessment. The results showed that all full collinearity VIF values were below the 3.3 threshold. Therefore, the full collinearity assessment did not indicate substantial common method bias in the dataset.

Based on the preliminary results, the authors then applied PLS-SEM to validate the overall research model. PLS-SEM was considered appropriate given the model's complex structure, which involved simultaneously testing the mediating and moderating roles in the research model. Unlike CB-SEM, which centers mainly on model fit and requires normally distributed data, PLS-SEM emphasizes predictive accuracy, allows greater flexibility in processing Likert-scale data, and is widely recognized as appropriate for consumer behavior research. The study included 18 items and 556 valid observations, exceeding the minimum sample size requirements. This ensured the stability and robustness of the PLS-SEM estimates. In addition, the authors assessed model fit using the standardized root mean square residual (SRMR) and the normed fit index (NFI) to evaluate the overall fit of the proposed model. To assess the model's out-of-sample predictive relevance, we used the PLSpredict procedure in SmartPLS 4. The analysis generated cross-validated prediction errors and Q^2_predict values for the endogenous constructs and their indicators. A bootstrap procedure was applied to test the moderating role of green perceived risk in the relationship between green brand awareness, green brand loyalty, and willingness-to-pay premium price for green products. To assess potential common method bias (CMB), a full collinearity assessment was conducted following Kock [62]. The study introduced a random dependent variable into the model and examined the full collinearity variance inflation factor (VIF) values. This procedure provided an explicit assessment of potential common method bias beyond the conventional multicollinearity assessment for the structural model.

4. Results

4.1. Demographic Characteristics of Respondents

Table 1 presents the descriptive statistics for the demographic characteristics of the 556 survey participants; 394 were female (70.9%), 160 were male (28.8%), and 0.4% were other. With regard to age group, the largest group at the age of 19–24 years represented 383 individuals (68.9%), followed by the 31–45-year-old group with 95 individuals (17.1%); 25–30 years, with 64 individuals (11.5%); and 46–60 years, with 12 individuals (2.2%). Meanwhile, the over–60–year–old group consisted of only 2 individuals (0.3%). Regarding educational background, most respondents completed high school or college (407 individuals, 73.2%), while 149 respondents (26.8%) held a university degree, a master's degree, or a doctorate. By career, students made up the largest proportion (328; 59%), followed by office staff (112; 20.1%), while only 64 were business owners/officials/managers (11.5%) and 52 were teachers/lecturers (9.4%). When it comes to monthly income, over 50% of respondents (52.5%) earned less than USD 280 per month, suggesting that the sample was largely inclusive of consumers with low to moderate purchasing power. The remaining groups earned USD 280–400 (88 individuals, 15.8%), USD 400–600 (79 individuals, 14.2%), USD 600–800 (47 individuals, 8.5%), USD 800–1200 (19 individuals, 3.4%), and above USD 1200 (31 individuals, 5.6%).

Table 1. Descriptive statistics analysis results for demographic variables.

Category N = 556		Frequency	Percentage
Gender	Male	160	28.8%
	Female	394	70.9%
	Other	2	0.4%
Age	19–24 years old	383	68.9%
	25–30 years old	64	11.5%
	31–45 years old	95	17.1%
	46–60 years old	12	2.2%
	Over 60 years old	2	0.3%
Education	High school/College graduate	407	73.2%
	University/Master's/Doctoral graduate	149	26.8%
Job	Business owner/Officer/Manager	64	11.5%
	Teacher/Lecturer	52	9.4%
	Office staff	112	20.1%
	Student	328	59%
Income	Under 280 USD/month	292	52.5%
	280–400 USD/month	88	15.8%
	400–600 USD/month	79	14.2%
	600–800 USD/month	47	8.5%
	800–1200 USD/month	19	3.4%
	Over 1200 USD/month	31	5.6%

Source: Authors' calculations.

Additionally, the ANOVA results in Table 2 indicate that occupation is the only demographic factor yielding a statistically significant difference ($p = 0.023 < 0.05$). The remaining factors, gender, age, education, and income, showed no statistically significant differences in mean values ($p > 0.05$). These results suggest that respondents' opinions and assessments were relatively consistent across most demographic characteristics.

Table 2. ANOVA Test.

Demographic Characteristic	Levene's Test (Sig.) *	Welch Test/ F-Test (Sig.) *	Sample Size	Mean
Gender	0.03	0.504		
Male			160	3.82
Female			394	3.78
Other			2	4.50
Age	0.167	0.779		
19–24 years old			383	3.78
25–30 years old			64	3.82
31–45 years old			95	3.82
46–60 years old			12	4.06
Over 60 years old			2	4.00
Education	0.79	0.681		
High school/College graduate			407	3.79
University/Master's/Doctoral graduate			149	3.82
Job	0.591	0.023		
Business owner/Officer/Manager			64	4.05
Teacher/Lecturer			52	3.92
Office staff			112	3.75
Student			328	3.75

Table 2. *Cont.*

Demographic Characteristic	Levene's Test (Sig.) *	Welch Test/ F-Test (Sig.) *	Sample Size	Mean
Income	0.904	0.484		
Under 280 USD/month			292	3.74
280–400 USD/month			88	3.78
400–600 USD/month			79	3.90
600–800 USD/month			47	3.94
800–1200 USD/month			19	3.88
Over 1200 USD/month			31	3.85

* Statistically significant at the 0.05 level (Sig. < 0.05). Source: Authors' calculations.

4.2. Discriminant Validity

4.2.1. Analysis of the Reliability of the Scale (Cronbach's Alpha)

According to the Cronbach's Alpha analysis, all measurement scales exhibited high reliability. The coefficients of GBA, GBL, GBR, and WTP were 0.917, 0.903, 0.919, and 0.912, respectively. No observed variables were eliminated from the analysis, and all coefficients were above the 0.7 threshold, as suggested by Nunnally and Bernstein [63]. These results reveal that the measurement scales used in this study exhibit strong internal consistency and are therefore reliable for the analyses in the next sections.

4.2.2. Exploratory Factor Analysis (EFA)

The study conducted an exploratory factor analysis to assess the measurement scales' structure. The results reveal that the KMO values for all constructs were above 0.7, while Bartlett's test of sphericity was statistically significant (sig. = 0.000), indicating that the dataset was appropriate for factor analysis (Table 3). In addition, the initial Eigenvalues were all greater than 1, and the total variance explained ranged from 75.18% to 79.15%, indicating that the extracted factors have strong explanatory power.

Table 3. Exploratory factor analysis results.

Factor	KMO	Bartlett's Test of Sphericity (Sig.)	Total Initial Eigenvalue	Cumulative (%)
GBA	0.886	0.000	3.759	75.181
GBL	0.838	0.000	3.116	77.912
WTP	0.836	0.000	3.166	79.150
GPR	0.864	0.000	3.802	76.037

Source: Authors' calculations.

The rotated component matrix (Table 4) showed that all observed variables had factor loadings greater than 0.8 and no cross-loadings, confirming the convergent and discriminant validity of the measurement scales. All observed variables were retained, forming four factor groups: GBA, GBL, GPR, and WTP.

The rotated component matrix (Table 4) showed that all observed variables had factor loadings greater than 0.8, with no cross-loadings detected. This result provides evidence of convergent validity and discriminant validity for the measurement scales. Consequently, all observed variables were retained and grouped into four factor groups (GBA, GBL, GPR, and WTP).

Table 4. Rotated factor matrix.

	1	2	3	4
GBA1	0.835			
GBA2	0.857			
GBA3	0.886			
GBA4	0.892			
GBA5	0.865			
GBL1		0.886		
GBL2		0.901		
GBL3		0.878		
GBL4		0.865		
GPR1			0.869	
GPR2			0.866	
GPR3			0.900	
GPR4			0.904	
GPR5			0.817	
WTP1				0.913
WTP2				0.920
WTP3				0.874
WTP4				0.850

Source: Authors' calculations.

4.3. Measurement Model

Based on the EFA results, the measurement model was assessed using PLS-SEM to evaluate scale reliability and convergent validity. This study employed a combination of a two-stage approach and mean-centering to generate the interaction term. Table 5 showed that all observed variables had outer loadings above 0.7, indicating they contribute adequately to their corresponding latent constructs.

Table 5. Reliability and convergent validity.

Latent Variable	Items	Outer Loading	Cronbach's Alpha	Reliability (Rho)	Composite Reliability	Average Variance Extracted (AVE)
GBA	GBA1	0.840	0.917	0.918	0.938	0.752
	GBA2	0.855				
	GBA3	0.884				
	GBA4	0.890				
	GBA5	0.865				
GBL	GBL1	0.886	0.905	0.906	0.934	0.779
	GBL2	0.902				
	GBL3	0.878				
	GBL4	0.863				
GPR	GPR1	0.879	0.922	0.924	0.940	0.760
	GPR2	0.872				
	GPR3	0.893				
	GPR4	0.895				
	GPR5	0.817				
WTP	WTP1	0.913	0.912	0.914	0.938	0.791
	WTP2	0.920				
	WTP3	0.876				
	WTP4	0.848				

Source: Authors' calculations.

Because all Cronbach's Alpha coefficients exceeded the 0.7 threshold [64], the scales' reliability was confirmed. This was also supported by composite reliability values, which were higher than 0.7 [65]. Moreover, all average variance extracted values were above 0.5 [66], suggesting that the constructs explained a substantial proportion of the variance in the observed variables. Thus, the measurement model satisfied the required criteria for reliability and convergent validity, providing a solid foundation for testing the structural model in the subsequent analyses.

Table 6 shows the results of the discriminant validity assessment using the HTMT criterion. All pairs of latent constructs showed that HTMT values were below the threshold of 0.9, as suggested by Henseler et al. [67]. This indicates that the research constructs in the model are clearly distinct and do not overlap in their measurement content.

Table 6. Discriminant validity of the latent variables.

	GBA	GBL	GPR	WTP
GBA				
GBL	0.787			
GPR	0.401	0.378		
WTP	0.733	0.866	0.492	

Source: Authors' calculations.

Next, this study tested required reporting metrics, such as key model fit indicators like SRMR and NFI. The estimated model yielded an SRMR of 0.050, below the commonly used threshold of 0.08. The NFI value was 0.912, exceeding the 0.90 threshold [68]. These results indicate an acceptable level of model fit for the proposed model.

In addition, common method bias (CMB) was assessed using a full collinearity assessment following Kock [62]. The results show that the variance inflation factor (VIF) values for the independent variables GBA, GBL, and GPR, which influence WTP, were 2.147, 2.103, and 1.239, respectively. All full collinearity VIF values were below the threshold of 3.3. Therefore, the full collinearity assessment did not indicate substantial common method bias in the dataset. These results suggest that common method bias is unlikely to materially affect the relationships examined in the structural model.

4.4. Structural Model

Before assessing the structural relationships, we examined collinearity among the predictor constructs using inner VIF values. All VIF values were below 3.3, indicating that critical multicollinearity was not present in the structural model and that the data met the conditions for further testing of the structural relationships among latent constructs [69]. Testing the research hypotheses using the Bootstrap method with a sample size of 1000 showed that all model effects were statistically significant at the $p < 0.001$ level. Figure 2 shows the results.

We used path analysis to test the structural model and evaluate relationships among the latent constructs. The results indicated that all three research hypotheses (H1, H2, H3) were supported ($p < 0.05$). Specifically, GBA exerted a strong, positive effect on GBL, with a path coefficient of 0.718. Moreover, both GBA and GBL influenced WTP, with GBL's effect (0.600) substantially greater than GBA's (0.170). These findings indicated the central role of green brand loyalty in driving consumers' willingness to pay a premium price for green products.

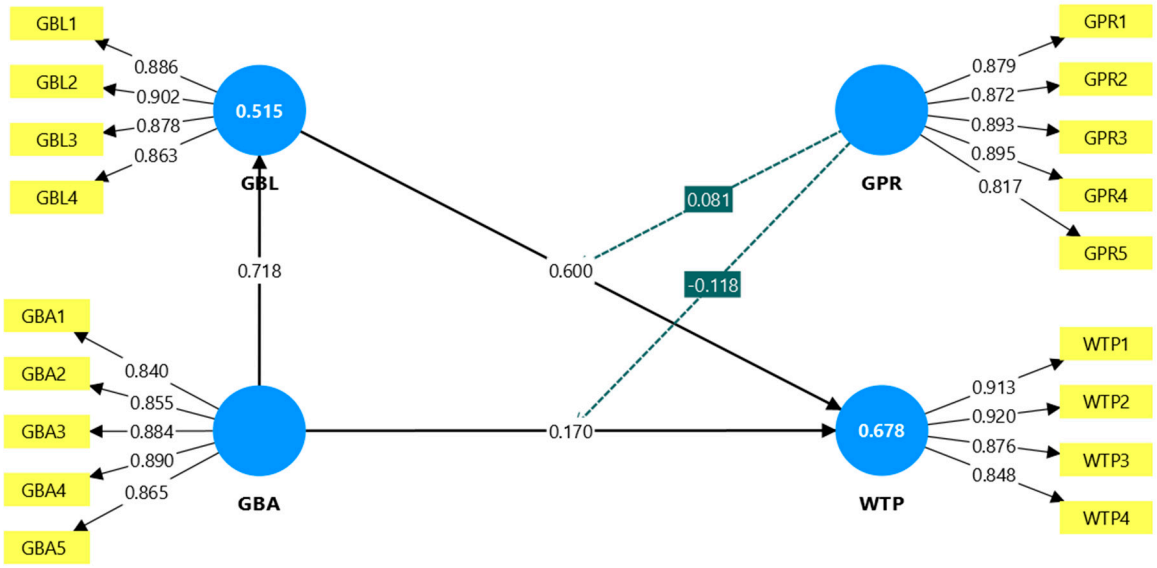


Figure 2. Results of PLS-SEM structural model analysis. Source: Authors' calculations.

In addition, the adjusted R^2 was used to assess the model's explanatory power. The results indicate that the adjusted R^2 for the dependent variable GBL is 0.514, meaning the independent variables explain 51.4% of the variance in green brand loyalty, reflecting a strong explanatory level according to Hock and Ringle [66]. Similarly, the adjusted R^2 for the dependent variable WTP is 0.675, indicating that the independent variables explain 67.5% of the variance in willingness to pay and showing a strong explanatory level. Furthermore, the f^2 index was used to evaluate the effect size of each independent variable on the dependent variable. The results show that the link between GBA and GBL has an f^2 value of 1.063, reflecting a strong effect ($\geq$0.35). Similarly, the link between GBL and WTP has an f^2 value of 0.531, also indicating a strong effect. Other relationships show lower f^2 values, reflecting small or medium effects [70]. Finally, all manifest variables of the key endogenous construct(s) yield Q^2 values greater than zero. In addition, comparing the PLS-SEM _RMSE values of LM_RMSE against the baseline linear model PLS-SEM shows lower prediction errors across all eight indicators. Consequently, the proposed model demonstrates sufficiently high predictive capability when generalized to new data (see Table 7) [71].

Table 7. Out-of-sample predictive assessment using PLSpredict.

	Q^2_Predict	PLS-SEM_RMSE	LM_RMSE
GBL1	0.406	0.711	0.720
GBL2	0.427	0.631	0.643
GBL3	0.380	0.779	0.783
GBL4	0.374	0.659	0.678
WTP1	0.412	0.689	0.699
WTP2	0.435	0.673	0.685
WTP3	0.413	0.706	0.719
WTP4	0.300	0.705	0.710

Source: Authors' calculations.

4.5. Mediating Effect

The mediating role of GBL in the relationship between GBA and WTP was assessed using bootstrapping. The results are presented in Table 8. The direct effect of GBA on WTP was positive and statistically significant (β = 0.170, t = 3.983, $p < 0.001$). The specific indirect

effect of GBA on WTP through GBL was also positive and statistically significant (β = 0.430, t = 12.538, $p < 0.001$). In addition, GBA had a positive and statistically significant total effect on WTP (β = 0.600, t = 16.683, $p < 0.001$). The 95% bias-corrected confidence intervals for the direct and indirect effects did not include zero, further confirming their statistical significance. Because both the direct and indirect effects were positive and significant, the results indicate that GBL mediates the positive relationship between GBA and WTP. Therefore, hypothesis H_4 is supported.

Table 8. Direct, indirect, and total effects of the mediation model.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	*p* Values
Direct effect: GBA → WTP	0.170	0.173	0.043	3.983	0.000
Indirect effect: GBA → GBL → WTP	0.430	0.427	0.034	12.752	0.000
Total effect: GBA → WTP	0.600	0.604	0.036	16.683	0.000

Source: Authors' calculations.

4.6. Moderating Effect

Next, the study tested the moderating role of green perceived risk (GPR) in the model, with the results presented in Table 9. The results show that the GPR × GBA interaction effect on WTP is statistically significant, with a path coefficient of β = −0.118 and $p = 0.004 < 0.05$. This result supports H6, indicating that GPR negatively moderates the relationship between GBA and WTP. Specifically, as consumers' perceived risk increases, the positive effect of GBA on WTP becomes weaker.

Table 9. Results of the moderation test.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	*p* Values
GPR → WTP	0.179	0.182	0.036	4.924	0.000
GPR × GBA → WTP	−0.118	−0.115	0.041	2.847	0.004
GPR × GBL → WTP	0.081	0.078	0.046	1.761	0.078

Source: Authors' calculations.

In contrast, the interaction effect of GPR × GBL on WTP is not statistically significant (β = 0.081, t = 1.761, $p = 0.078 > 0.05$). Therefore, there is insufficient evidence to conclude that GPR significantly moderates the relationship between GBL and WTP. Accordingly, H_5 is not supported.

To further interpret the significant moderating effect of GPR on the relationship between GBA and WTP, we conducted a simple slopes analysis. Figure 3 presents the interaction plot at low (−1 SD), mean, and high (+1 SD) levels of GPR.

As shown in Figure 3, the positive relationship between GBA and WTP is steepest when GPR is low (−1 SD). At the mean level of GPR, the slope is less steep, while at a high level of GPR (+1 SD), it is the least steep. This pattern indicates that the positive relationship between GBA and WTP weakens as GPR increases.

The interaction plot therefore provides further visual evidence for the negative moderating effect identified in the bootstrapping analysis. When consumers perceive a relatively low level of risk, greater awareness of green brands is more strongly associated with their willingness to pay a premium price. However, as perceived risk increases, the positive

association between GBA and WTP becomes weaker. This finding suggests that GPR may constrain how strongly GBA translates into WTP.

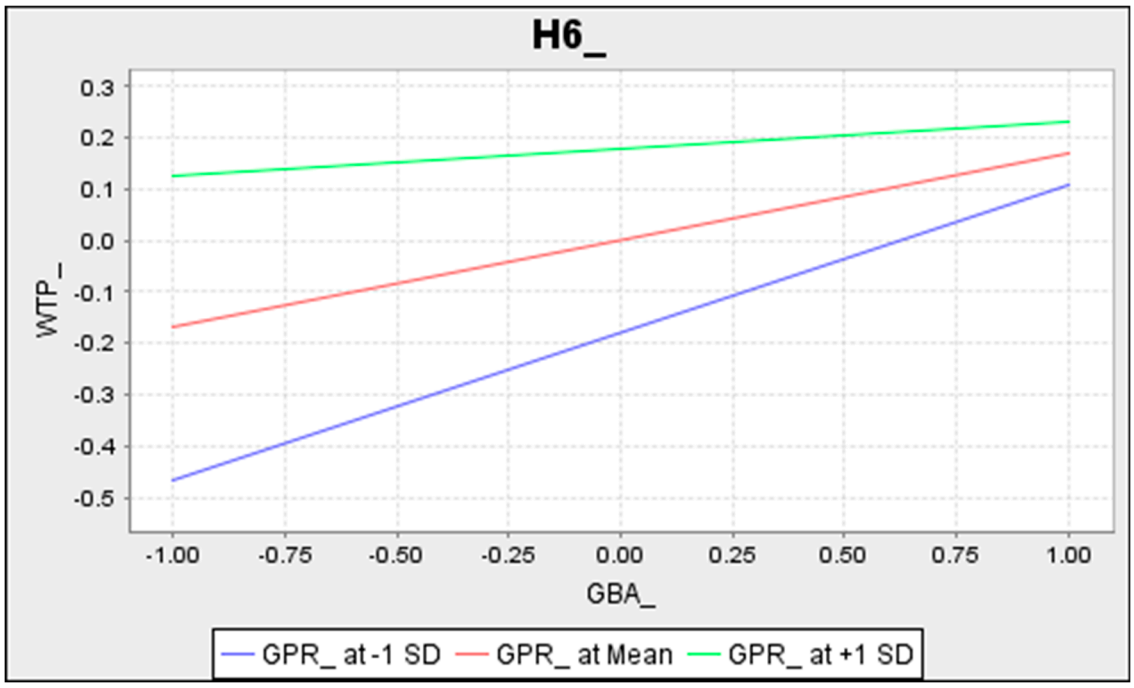


Figure 3. Interaction plot of the moderating effect of green brand awareness and green perceived risk on willingness to pay. Source: Authors' calculations.

5. Discussion

The research provides meaningful contributions to the literature on green fashion consumption. Many previous studies have explored the factors affecting green product purchase intentions with signaling theory and planned behavior theory [72,73]. This study provides a novel view by integrating three theoretical frameworks (S–O–R theory, perceived risk theory, and information economics theory) into a comprehensive model of consumer beliefs. Extending Fu et al. [72] and Vu et al. [73], this result confirms that awareness alone cannot drive premium pricing in green fashion. In doing so, it directly contradicts earlier literature [74] asserting that high visibility systematically translates into a price premium. Moreover, this finding refines and extends the work of Suphaskuldamrong et al. [52] and Latif et al. [48] by showing that brand equity constructs vary in their resilience to consumer skepticism. The findings indicate that GBA exerts the strongest influence on GBL. In green fashion, environmental benefits are predominantly credence attributes, qualities that consumers cannot easily verify prior to or even after purchase. Under conditions of high information asymmetry and greenwashing skepticism, evaluating eco-friendly credentials requires significant cognitive effort. To minimize cognitive strain, consumers rely heavily on heuristics [28]. High GBA functions as a powerful psychological signal of market legitimacy, stability, and peer validation [30]. This familiarity mitigates the GPR of making the wrong choice, creating psychological safety [31]. Consequently, consumers default to the recognized brand as a shortcut for routine decision-making. This cognitive efficiency fosters brand insistence and repurchase commitment because sticking with a known entity minimizes psychological friction and transaction uncertainty. Conversely, the finding that GBA exerts a markedly weaker direct impact on WTP highlights a critical psychological boundary in sustainable consumption. Psychologically, information processing alone does not equate to value internalization. Knowing that a green fashion brand is popular or well-known does not automatically create the emotional resonance, moral alignment, or

deep trust needed to justify paying a higher price. Without an intermediate affective bond, consumers process a price premium as an unfair financial penalty rather than a reflection of superior eco-value. This explains why awareness alone is an insufficient motivator for premium pricing: cognitive recognition creates consideration, but only affective attachment justifies financial sacrifice.

An unexpected yet intriguing empirical finding is the statistically significant positive relationship between GPR and WTP. While this contradicts the conventional premise that perceived risk acts strictly as a barrier to consumption, it aligns with the price-perceived risk signaling theory [75]. In the context of green fashion, when consumers perceive high environmental uncertainty or skepticism regarding product authenticity, they may utilize a premium price as a psychological heuristic for risk mitigation. Rather than deterring purchase, heightened risk perception prompts conscious consumers to allocate a higher budget to certified, high-tier green brands to ensure product legitimacy, ethical sourcing, and environmental compliance. Thus, a premium price functions not as a financial burden, but as a compensatory mechanism to hedge against greenwashing risks.

Moreover, GBL mediates the relationship between GBA and WTP. These results suggest that loyalty is the mechanism through which awareness translates into consumers' willingness to accept higher prices. Consumers exhibit an awareness–sacrifice gap: they readily grant their habitual patronage to familiar green brands, but withhold their financial sacrifice unless a deeper emotional relationship exists. GBL serves as the essential psychological bridge that closes this gap. When GBA is successfully converted into GBL, the consumer's relationship with the brand transitions from passive recognition to active identity alignment and hedonic involvement [39]. Loyal consumers derive emotional gratification and self-expressive value from supporting an eco-friendly brand. This psychological reward offsets the perceived financial loss of paying a higher price, effectively lowering price sensitivity [38]. Thus, loyalty acts as the psychological catalyst that transforms passive informational awareness into active economic commitment. The mediating role of loyalty, supported by this research's empirical findings, offers valuable insights for businesses seeking to turn young people from passive supporters into long-term advocates who see the "green premium" as added value rather than a financial burden. Another remarkable finding is that GPR negatively moderates the relationship between GBA and WTP. More specifically, higher GPR attenuates the positive influence of GBA on WTP.

In addition, this empirical finding disproves the initial hypothesis, demonstrating that GPR does not exert a significant buffering effect against GBL in driving WTP. From a theoretical perspective, this non-significant result offers a meaningful insight into consumer decision-making in green fashion. It implies that when consumers perceive high environmental risk or skepticism (e.g., fears of greenwashing or unverified sustainability claims), their risk-aversion mechanism overrides prior affective attachment or brand loyalty. In other abwords, even highly loyal consumers demand concrete, verifiable information (such as traceability systems) rather than relying blindly on their past favorable attitudes toward the brand.

6. Conclusions

Greenwashing practices by corporations have become a widely debated issue because of their complexity and multidimensional nature. At the same time, consumers' green consumption behavior is shaped by intricate psychological processes that pose both challenges and opportunities for research across multiple disciplines, particularly in the sustainable fashion industry. For Vietnam's companies seeking to build successful "Made in Vietnam" green brands, competing primarily on price with others is not a viable strategy. Instead, companies must recognize the significance of cultivating GBL and how to develop

it efficiently. This research provides a roadmap demonstrating how Vietnam's firms can justify premium pricing by leveraging young customer loyalty rather than relying solely on cost advantages. The following discussion presents several initiatives derived from the research findings.

6.1. Theoretical Implications

The study contributes to the academic literature by integrating three theoretical frameworks into a cohesive consumer trust model. First, S-O-R theory conceptualizes GBA as the Stimulus (S), GBL as the Organism (O), representing consumers' internal emotional and cognitive states, and WTP as the final Response (R). This framework suggests that awareness alone is not sufficient to trigger customers' behavioral responses without the internal processing stage, such as developing brand loyalty. In addition, perceived risk theory identifies GPR as a negative moderator within Vietnam's fashion industry. GPR reflects not only a lack of trust, but also consumers' functional concerns about whether a product genuinely delivers environmental and health benefits. By incorporating this view, the study shifts the analytical focus from merely explaining why consumers purchase green products to understanding the barriers that prevent them from doing so. Remarkably, information economics suggests that green products are credence commodities, meaning consumers cannot easily verify their environmental impact even after purchase. This underscores the importance of signaling mechanisms. In this context, strong GBA can signal credibility and quality, helping reduce information asymmetry between Vietnam's manufacturers and skeptical young consumers.

6.2. Managerial Implications

This research provides a strategic "Playbook" for managers in Vietnam's green fashion sector for young people with low average income: operationalizing digital traceability systems; outlining a tiered implementation model for supply-chain technology; strategic certification communication; proactive anti-greenwashing communication strategies. First, marketers and companies must deal with what can be described as the "Vietnam trust gap". The strong moderating effect of GPR on WTP indicates that visual awareness campaigns alone are insufficient. Consequently, decision-makers should strategically allocate resources toward verifiable traceability solutions, including QR codes and blockchain technologies, to authenticate product origin and environmental credentials. By providing reliable, transparent information, companies can alleviate concerns about greenwashing, a major barrier that deters consumers from paying a premium in the local market. Second, businesses should prioritize developing GBL, as it can serve as a financial safeguard amid rising inflation and intense price competition. Instead of engaging in a "race to the bottom" through price reductions, companies can foster long-term customer relationships, thereby supporting sustainable premium pricing strategies. Loyal customers are generally less sensitive to the green premium. Finally, brand managers should carefully design effective "green signals" based on the principles of information economics. Since sustainability is generally an invisible product feature, customers often count on external cues to assess it. Thus, companies should employ credible third-party certifications such as Global Recycled Standard, OEKO-TEX, or Vietnamese eco-labels to communicate their environmental/green commitments. These certifications can act as a cognitive shortcut for consumers, helping alleviate GPR and increase WTP.

6.3. Policy Implications

First, standardize national eco-labeling schemes. Regulators should establish clear, legally enforced national green-certification criteria tailored to the textile sector. Standardized, state-recognized eco-labels lower verification costs for domestic SMEs and protect

consumers from deceptive claims. Second, anti-greenwashing regulatory frameworks. Policymakers must enact strict legal penalties for deceptive environmental marketing. Rigorous market surveillance mechanisms protect legitimate "Made in Vietnam" green brands from unfair competition by bad actors exploiting the green trend. Third, institutional Incentives for supply-chain traceability. Government agencies should implement financial or tax incentives for textile manufacturers adopting clean technologies and verifiable traceability infrastructure. Public–private partnerships can lower the entry barrier for local enterprises aiming to build high-equity green brands. Finally, young, educated female consumers represent a key emerging market segment. Thus, policymakers and educational institutions should integrate sustainable consumption education and targeted public awareness campaigns to foster eco-conscious purchasing behaviors among the future workforce.

6.4. Limitation

Despite its important contribution to the literature, this study has several limitations. Specifically, the overrepresentation of young, educated female participants, mostly university students or recent entry-level workers, may introduce demographic bias. This may constrain the generalizability of the findings to older age cohorts, male demographics, and higher-income consumer segments. Furthermore, methodological and design constraints include its cross-sectional nature, inability to infer causality, reliance on self-reported metrics, and potential common method variance. The field would greatly benefit from more mixed-methods designs. Applying such evaluation techniques will better capture and address the multidimensional nature of the complex behavioral and psychological processes of businesses and consumers. In addition, sampling, self-reported data, and generalizability: Detailing social desirability bias, non-response bias, and sampling constraints. The study examined Vietnamese consumers who have purchased green fashion products. As such, the generalizability of these results is limited. Moreover, social desirability bias might be an issue given the nature of the present research. Thus, future studies may include samples from diverse demographic groups to help support generalizable findings. Final, contextual and boundary limitations: the cultural specificity of Vietnam and product-category constraints. This study investigates a theoretical model to help companies increase WTP. Future work could assess the potential impacts of other variables, such as company brands, ownership type, cultural context, and product category, on consumers' reactions to greenwashing.

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Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by Vietnam National University, Hanoi via Decision No. 1926 (protocol code: 1926/QĐ-ĐHQGHN, dated 10 May 2024).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study. The survey questionnaire can be found in the Appendix A.

Data Availability Statement: The data presented in this study are available on request from the corresponding author due to privacy reasons.

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Conflicts of Interest: The authors declare no conflicts of interest.

Appendix A

SURVEY QUESTIONNAIRE

Consumers' Willingness to Pay for Green Fashion Products

Dear respondent,

We are a research team from the Vietnam National University, Hanoi. We are currently conducting a study on ***consumers' willingness to pay for green fashion products****. We would greatly appreciate it if you could spare a few minutes to complete this survey.*

Please be assured that your responses will be used strictly for ***academic research purposes****. All personal information will be treated with the* ***strictest confidentiality****. Your valuable contribution is vital to the success of our study.*

Thank you for your cooperation!

Let me introduce you to the concept of green fashion:

Green Fashion *refers to apparel produced using eco-friendly raw materials and manufacturing processes that minimize environmental pollution.*

Screening question

Please let us know if you have ever purchased and/or used green fashion products.

☐*1 Never purchased and/or used (Thank you for your time and interest in our study. Unfortunately, you do not meet the criteria for this survey. Have a great day!)*

☐*2 Have purchased and/or used (Please proceed to the survey items below)*

Based on your understanding and/or experience with "Green Fashion," please indicate your level of agreement with the following statements.

Question 1: Please indicate your perception regarding Green Fashion Brands (Green Brand Awareness–GBA).

	Totally Disagree	*Disagree*	*Neutral*	*Agree*	*Totally Agree*
GBA1: I can distinguish this fashion brand from competitors based on its environmental commitments.	☐1	☐2	☐3	☐4	☐5
GBA2: I am aware of this fashion brand due to its environmental reputation.	☐1	☐2	☐3	☐4	☐5
GBA3: Specific environmental attributes of this fashion brand quickly come to my mind.	☐1	☐2	☐3	☐4	☐5
GBA4: I can easily recall this fashion brand's eco-friendly image.	☐1	☐2	☐3	☐4	☐5
GBA5: I recognize this green fashion brand easily because of its focus on environmental sustainability.	☐1	☐2	☐3	☐4	☐5

Question 2: Please indicate your perspective on Green Brand Loyalty (GBL).

	Totally Disagree	*Disagree*	*Neutral*	*Agree*	*Totally Agree*
GBL1: I prefer purchasing green fashion products over conventional ones.	☐1	☐2	☐3	☐4	☐5
GBL2: I intend to continue purchasing green fashion products.	☐1	☐2	☐3	☐4	☐5

	Totally Disagree	*Disagree*	*Neutral*	*Agree*	*Totally Agree*
GBL3: Overall, this green fashion brand would be my first choice.	☐1	☐2	☐3	☐4	☐5
GBL4: I would recommend this green fashion brand to others.	☐1	☐2	☐3	☐4	☐5

Question 3: Please indicate your Willingness to Pay a Premium (WTP) for green fashion products.

	Totally Disagree	*Disagree*	*Neutral*	*Agree*	*Totally Agree*
WTP1: I would pay a higher price for fashion products manufactured via eco-friendly processes.	☐1	☐2	☐3	☐4	☐5
WTP2: I am willing to spend more on environmentally friendly products.	☐1	☐2	☐3	☐4	☐5
WTP3: I find it acceptable to pay a 25% premium for fashion products made through eco-friendly processes.	☐1	☐2	☐3	☐4	☐5
WTP4: I believe that paying extra for eco-friendly fashion products is justifiable.	☐1	☐2	☐3	☐4	☐5

Question 4: The following statements relate to the Green Perceived Risk (GPR) of fashion products.

	Totally Disagree	*Disagree*	*Neutral*	*Agree*	*Totally Agree*
GPR1: This green fashion product may not be manufactured in accordance with environmental safety standards.	☐1	☐2	☐3	☐4	☐5
GPR2: The green fashion brand may not comply with its health protection criteria.	☐1	☐2	☐3	☐4	☐5
GPR3: This green fashion product might not contribute to reducing environmental pollution.	☐1	☐2	☐3	☐4	☐5
GPR4: This green fashion product might be ineffective in improving the ecological environment.	☐1	☐2	☐3	☐4	☐5
GPR5: Using this green fashion product does not necessarily enhance my social status or earn admiration from others.	☐1	☐2	☐3	☐4	☐5

Demographic Information

Please provide the following personal details for data analysis purposes. Your information will remain confidential.

1. Gender (S):	☐(1) Male	☐(2) Female	☐(3) Other
2. Age (A):	☐(1) 19–24 years old ☐(2) 25–30 years old ☐(3) 31–45 years old	☐(4) 46–60 years old ☐(5) Over 60 years old	
3. Education Level (HE):	☐(1) High School/College graduate	☐(2) University/Master's/Doctoral graduate	

4. Occupation (O):	☐(1) Business owner/Officer/Manager ☐(2) Teacher/Lecturer	☐(3) Office staff ☐(4) Student
5. Income (PAMI):	☐(1) Under 280 USD/month ☐(2) 280–400 USD/month ☐(3) 400–600 USD/month	☐(4) 600–800 USD/month ☐(5) 800–1200 USD/month ☐(6) Over 1200 USD/month
6. In your opinion, what factors make consumers hesitant to purchase green fashion products? (e.g., price, style, etc.)		
7. What should green fashion brands do to increase consumers' willingness to pay a premium?		

Thank you for your help.

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