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THE MODERATING EFFECT OF ENVIRONMENTAL AWARENESS ON WILLINGNESS TO PAY FOR THE BODY SHOP PRODUCTS

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ABSTRACT

Single-use plastic consumption was so high that it led to a buildup of plastic waste, threatening the sustainability of ecosystems and marine life. Much of this plastic waste originated from environmentally unfriendly products, which had become an increasingly pressing social issue. This study investigated the impact of green product attributes, perceived price, and environmental awareness on consumers' purchase intentions for green products. Data were collected through a survey of 250 randomly selected respondents and analysed using descriptive statistics, validity and reliability tests, and Partial Least Squares Structural Equation Modelling (PLS-SEM) to assess both measurement and structural relationships. Validity was assessed using product-moment correlation analysis, and reliability using Cronbach's alpha coefficient. Hypothesis testing was carried out with the help of PLS-SEM software. The results showed that Attitude Toward Green Brand and Price & Value Perception positively and significantly influenced Green Purchase Intention, with regression coefficients of 0.232 and 0.198, respectively. However, environmental awareness did not influence substantially GPI, with a p-value coefficient of -0.052. This research provided important insights for developing green product marketing strategies, emphasising the importance of strengthening product attributes and perceived value to increase consumer purchase intentions. Theoretically, the findings extended the understanding of consumer behaviour in green marketing by confirming that perceived product value mediated the relationship between environmental concern and purchase intention, thereby enriching existing models of sustainable consumption.

Keywords: *green purchase intention; plastic waste; PLS-SEM*

INTRODUCTION

Indonesian industry is currently undergoing a shift towards more sustainable practices. According to the Ministry of Environment and Forestry (MoEF), there has been a significant increase in investment and adoption of green technologies across various industrial sectors (Ministry of Environment and Forestry, 2022). Large corporations are increasingly paying attention to sustainability aspects in their operations, as reflected in stricter

environmental policies and sustainability-focused Corporate Social Responsibility (CSR) initiatives (Ministry of Environment and Forestry, 2022). These sustainable changes have been implemented in various industry sectors, including manufacturing, tourism, hospitality, logistics, and food.

In recent industrial developments, environmentally unfriendly products continue to have severe environmental impacts in Indonesia. Single-use plastic products, such as plastic shopping bags and water bottles, are clear examples of environmental harm. (Apriyana et al., 2021). The high consumption of single-use plastics results in the accumulation of plastic waste in the oceans and the environment, posing a threat to the sustainability of ecosystems and marine life (Apriyana et al., 2021). The high consumption of these products creates severe challenges in maintaining environmental quality and public health (Chandra Setiawan et al., 2021). Thus, awareness of the environmental impact of non-environmentally friendly products is increasing, driving demand to switch to more sustainable alternatives.

Based on data from the Ministry of Environment and Forestry (2023), the composition of waste generated in the provinces of West Java, Central Java, and East Java reveals that food waste is the most significant component, contributing the highest percentage in all these regions. In West Java, food waste accounted for 35.01%; in Central Java, 40.86%; and in East Java, 53.62%. Meanwhile, plastic waste is the second-highest component generated, with significant contributions of 22.25% in West Java, 19.6% in Central Java, and 16.29% in East Java. Therefore, this data indicates that the issue of plastic waste remains a significant concern, given the challenges associated with recycling plastic waste.

In Indonesia, according to statistics from the Indonesian Solid Waste Association, the amount of plastic waste in domestic waste reaches 5.4 million tons per year, equivalent to 14% of total waste generated. This indicates that plastic has replaced paper as the second most significant type of waste. Plastic waste primarily originates from packaging and containers, including cosmetic packaging, bottle caps, and shampoo bottles. Currently, there is no exceptional management for plastic waste at the municipal level; hence, the introduction of environmentally friendly plastics,

degradable plastics, biodegradable plastics, or bioplastics to the public.

The Body Shop is a brand highly recognised for its commitment to sustainability and environmental ethics. The Body Shop utilises recycled packaging and is committed to reducing plastic waste through a refill program that enables customers to refill their products using the same bottle. By 2023, The Body Shop had saved 21 tons of plastic through the use of recycled packaging and a refill program. Thus, a deep understanding of the concept and importance of green products is crucial in designing effective marketing strategies and encouraging more sustainable purchasing behaviours among consumers.

A study by Siyal et al. (2021) examined psychological factors shaping green purchase intention, drawing on the Theory of Planned Behaviour (TPB), with green brand knowledge as a moderator. However, it only explained the intention stage without measuring actual behaviour. Meanwhile, the study examined sustainable consumption behaviour in relation to cognitive and attitudinal factors (awareness and attitude). However, it did not integrate the role of intention or brand knowledge moderation in bridging the relationship between awareness and actual behaviour. Both studies are partial in scope; thus, this research combines the TPB model (Siyal et al., 2021) with the sustainable behavior model (Islam & Ali Khan, 2024) to construct a more comprehensive conceptual framework that explains the linkage from environmental awareness to green purchase behavior, with an additional relationship between green purchase intention and willingness to pay as a form of practical behavioral outcome. In terms of the theoretical gap, this integration addresses the limitations of previous models that have not examined the simultaneous relationships among psychological factors, intention, and actual behaviour. From an empirical perspective, previous studies were conducted in Pakistan and Saudi Arabia. Testing the model in the Indonesian context is crucial to enhance generalizability, as environmental awareness in Indonesia has increased. However, consumer behaviour, knowledge, and willingness to pay for green products remain low.

Therefore, this study aims to develop an integrated conceptual model by combining the Theory of Planned

Behaviour (TPB) and sustainable consumption behaviour frameworks to examine the effect of environmental awareness, attitude, and green purchase intention on consumers' willingness to pay for eco-friendly products, using The Body Shop as the research context in Indonesia. This study is expected to make theoretical contributions by addressing the gap in linking psychological and behavioural aspects of sustainable consumption, and to offer practical implications for companies in promoting consumer willingness to pay for green products.

MATERIALS AND METHODS

1. Plastic Waste

In general, plastic waste refers to discarded plastic materials that are neither reused nor recycled, often resulting in long-term environmental pollution (Roland Geyer et al., 2017). Plastic is a synthetic polymer that decomposes very slowly, creating significant challenges for waste management and ecosystem sustainability (Roland Geyer et al., 2017). Globally, the accumulation of plastic waste has become a critical environmental issue, particularly in developing countries where waste handling systems remain limited (Lebreton & Andrady, 2019).

In Indonesia, plastic waste is a significant environmental concern due to the high consumption of single-use plastics, including packaging, bottles, and cosmetic containers (Indonesian Solid Waste Association, 2023). According to national data, plastic accounts for around 14% of total household waste, making it the second-largest contributor after food waste. The cosmetic industry, including packaging for skincare and body care products, contributes to this waste stream. Hence, consumer behaviour plays a crucial role in reducing plastic waste by opting for environmentally friendly or refillable products.

The Body Shop represents one of the leading brands addressing this issue by implementing refill stations and using recycled materials in product packaging (The Body Shop, 2022). Therefore, this study considers plastic waste as a contextual foundation for understanding consumers' willingness to pay for green products and their environmental awareness in reducing plastic use.

Quantitative research methods must contain experimental settings, data

collection, data analysis, statistical testing, assumptions, and experimental authority. In contrast, qualitative research must encompass the research setting, including the location, number, and criteria for respondents, sampling techniques, data collection procedures, validation procedures, coding, interpretation, and data presentation or analysis techniques. Formula writing must follow international notation and symbol standards, followed by references if quoted from others.

2. Green Purchase Intention

Green Purchase Intention (GPI) refers to a consumer's willingness to buy environmentally friendly products and cause minimal harm to the environment (Joshi & Rahman, 2017). Green Purchase Intention (GPI) represents a psychological state that precedes actual green purchasing behaviour and is influenced by attitudes, subjective norms, and perceived behavioural control, as proposed by the Theory of Planned Behaviour (TPB). Consumers with strong pro-environmental attitudes tend to demonstrate higher intentions to choose sustainable or green-labelled products. In developing countries such as Indonesia, green purchase intention remains relatively low due to limited environmental knowledge and scepticism toward eco-labels. For example, Vironika & Maulida (2025) found that environmental knowledge has an indirect effect on green purchase intention through trust, rather than a direct influence.

Price sensitivity and low product availability also hinder consumers from consistently buying green products (Liobikienė & Bernatonienė, 2017). However, environmental awareness plays an essential moderating role in strengthening the relationship between attitude and intention (Siyal et al., 2021). When consumers are aware of environmental issues such as plastic waste, they are more likely to perceive green products as valuable alternatives despite higher prices (Islam & Ali Khan, 2024).

The conceptual framework in this study is developed by integrating two prior models on green consumer behaviour to construct a more comprehensive representation of sustainable purchasing dynamics. The first model, proposed by Siyal et al. (2021), applies the Theory of Planned Behaviour (TPB) to explain green purchase intention (GPI), which is shaped by attitude, subjective norms, and perceived behavioural control, with

green brand knowledge serving as a moderating variable. While this model effectively explains consumers' psychological mechanisms in forming green intentions, it primarily focuses on the intention stage and does not capture actual purchasing behaviour outcomes. The second model, developed by Islam & Ali Khan (2024), explores sustainable consumption behaviour through environmental awareness and attitude as key cognitive and affective factors influencing pro-environmental behaviour. However, the model does not account for the mediating role of intention or the moderating effect of brand-related knowledge in the relationship between awareness and behavioural outcomes. The conceptual framework is presented in **Figure 1**, which illustrates the hypothesised relationships among the study's primary constructs.

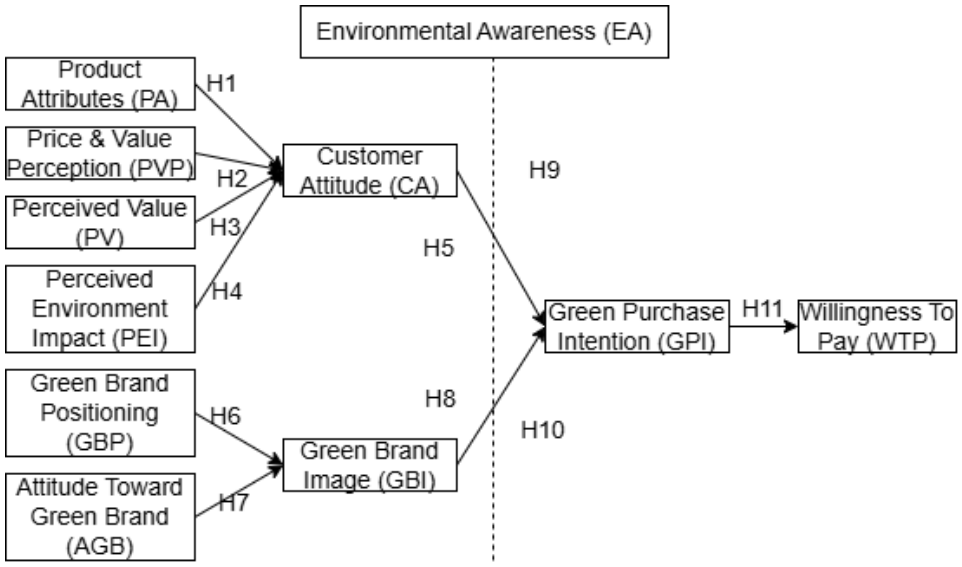

Figure 1. Conceptual Framework

As illustrated in **Figure 1**, product attributes, price, and value perception, as well as perceived environmental impact, are proposed to shape customer attitudes. Meanwhile, green brand positioning and attitude toward the green brand influence the green brand image. Both customer attitude and green brand image serve as primary drivers of green purchase intention, which subsequently determines willingness to pay as a tangible form of pro-environmental behaviour. Furthermore, environmental awareness is introduced as a moderating variable, expected to strengthen the relationship between green purchase intention and willingness to pay. Individuals with higher environmental

awareness, particularly regarding issues such as plastic waste, are expected to exhibit stronger behavioural consistency, meaning their intentions are more likely to translate into actual economic support for green products. This integrated model provides a holistic perspective that captures the interplay among cognitive understanding (awareness), affective evaluation (attitude), and behavioural expression (willingness to pay). By empirically testing this framework within the Indonesian market context, the study aims to deepen theoretical understanding of green consumer behaviour and provide practical insights for sustainable business strategies. Ultimately, the framework seeks to explain how psychological and situational factors jointly influence consumers' readiness to pay for eco-friendly products, thereby supporting broader goals of sustainable consumption and environmental responsibility.

3. Research Design

This study employs a quantitative explanatory design to test the causal relationships among environmental awareness, attitude, green purchase intention, and willingness to pay. The illustrative approach is chosen because it focuses on testing and extending existing theories, particularly the Theory of Planned Behaviour (TPB) and the Sustainable Behaviour Model, to validate how cognitive and attitudinal factors influence behavioural outcomes empirically. This approach is particularly relevant for studies that aim to test causal models involving latent variables, which are commonly analysed using Structural Equation Modelling (Hair et al., 2017). Data were collected through an online questionnaire distributed via Google Forms on social media platforms over a one-month period. The study focuses on respondents living in Semarang City, as Central Java is among the largest waste-producing regions in Indonesia, and Semarang, as the capital city, represents an urban area with a dense population and diverse socio-economic characteristics relevant to sustainable consumption research.

Respondents were selected using purposive sampling, with specific criteria: individuals aged 18 years and above who had previously purchased or shown interest in eco-friendly products, particularly those from The Body Shop. These criteria ensure that respondents have basic awareness and experience with sustainability issues, enabling them

to provide informed and meaningful responses (Joshi & Rahman, 2015). The sample size of 250 respondents was determined in accordance with the general rule of PLS-SEM, which suggests that the minimum sample size should be ten times the maximum number of structural paths directed at any latent variable (Hair et al., 2017). Data analysis was performed using SmartPLS software, which enabled simultaneous assessment of both the outer and inner models. The outer model evaluation examines indicator reliability, composite reliability, convergent validity, and discriminant validity. The inner model evaluation assesses the structural relationships among latent variables using path coefficients, R^2, and Q^2 to evaluate model strength and predictive relevance. Finally, hypothesis testing was conducted using bootstrapping to assess the statistical significance of each hypothesised relationship.

Additionally, the overall model fit was assessed using the Standardised Root Mean Square Residual (SRMR), where a value below 0.08 indicates a good model fit (Hair et al., 2017). Finally, hypothesis testing was conducted using bootstrapping to assess the statistical significance of each hypothesised relationship. This design enables systematic causal analysis and provides empirical insights into sustainable consumer behaviour in emerging markets, particularly in Indonesia.

4. Structural Equation Modelling–Partial Least Squares (SEM-PLS)

This study employs Structural Equation Modelling with Partial Least Squares (SEM-PLS) to test the proposed conceptual framework. SEM-PLS is a variance-based approach widely used in the behavioural and social sciences to analyse complex models involving multiple latent variables and mediating or moderating relationships (Hair et al., 2017). Compared to covariance-based SEM, PLS is more appropriate for prediction-oriented research and models that aim to explain variance in key target constructs rather than confirm a pre-established theory (Hair Jr et al., 2021). The use of SEM-PLS in this study is justified because the framework integrates several latent constructs, including environmental awareness, attitude, green purchase intention, and willingness to pay, with both direct and moderating effects. Moreover, SEM-PLS can effectively handle smaller sample sizes, non-normal data distributions, and

both reflective and formative measurement models (Hair Jr et al., 2021).

The analysis will be conducted using SmartPLS 4.0 software, which enables the simultaneous estimation of measurement and structural models. The measurement model will assess indicator reliability, internal consistency, convergent validity, and discriminant validity. The structural model will then evaluate the significance and strength of hypothesised relationships through bootstrapping procedures. Model quality will be examined using criteria such as R^2, Q^2, path coefficients, and effect sizes (f^2). Through this approach, SEM-PLS enables a robust examination of the integrated model, providing insights into how psychological and attitudinal variables influence consumers' willingness to pay for environmentally friendly products in the Indonesian context.

RESULTS AND DISCUSSION

This section presents the results of data analysis and interpretation based on the PLS-SEM approach. The analysis begins with evaluating the outer model to verify the reliability and validity of the measurement indicators, followed by assessing the inner model to examine the structural relationships among the latent variables. The model fit indices are then analysed to evaluate the overall adequacy of the research model, and finally, hypothesis testing is conducted to determine the significance of each proposed relationship. These results are discussed in relation to previous empirical findings and theoretical expectations to provide a comprehensive understanding of the factors influencing consumers' willingness to pay for eco-friendly products.

Figure 2 presents the structural model estimated using the Partial Least Squares Structural Equation Modelling (PLS-SEM) approach through SmartPLS software. The model illustrates the relationships among environmental awareness, customer attitude, green brand image, green purchase intention, and willingness to pay, including both direct and moderating effects. Each construct is represented as a latent variable with multiple indicators, and the path coefficients displayed in the model reflect the strength and direction of hypothesised relationships. The subsequent subsections provide a detailed discussion of the outer model,

inner model, model fit, and hypothesis testing results.

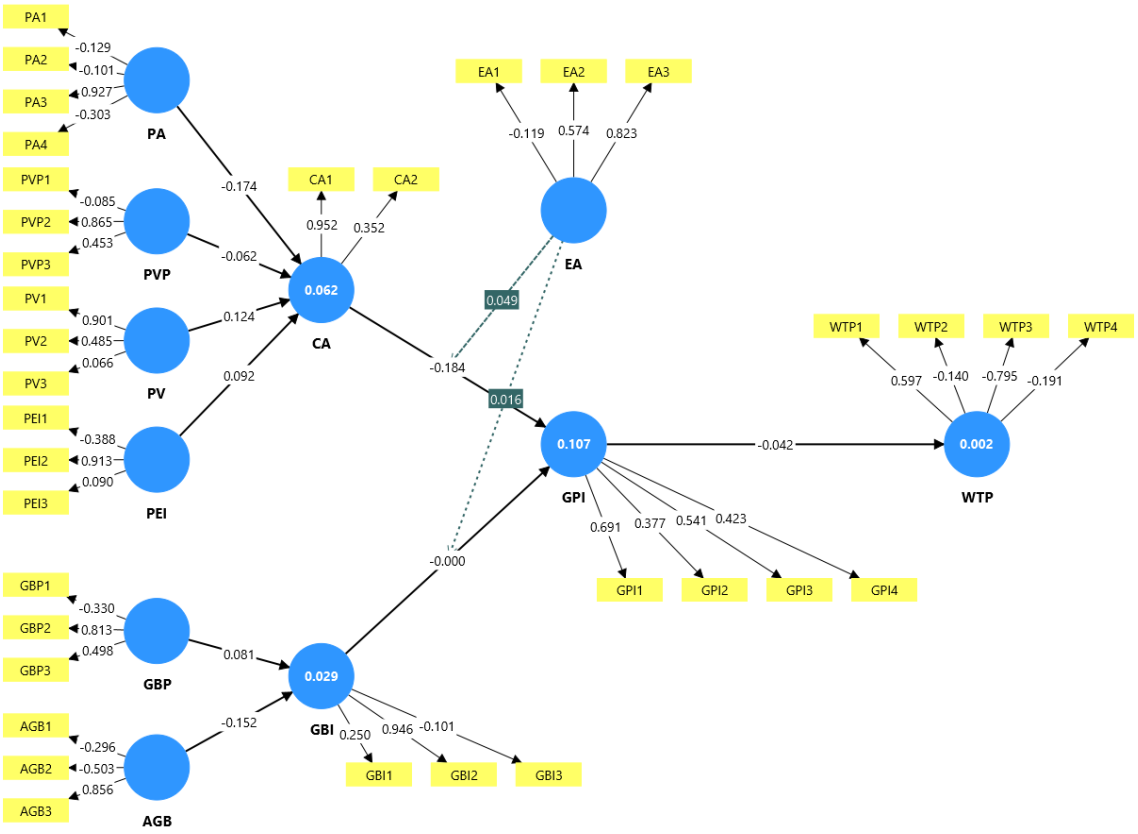

Figure 2. SEM Model

Source: Researcher Analysis, 2025

The evaluation of the model comprises four stages: assessment of the outer model, the inner model, model fit, and hypothesis testing. **Figure 2** shows that most indicator loadings are acceptable. However, the R-squared values for Green Purchase Intention (GPI) at 0.107 Among the various constructs and forms, the basis for further discussion lies in the detailed evaluation of the outer and inner models.

and Willingness to Pay at 0.002 indicate relatively weak explanatory power, suggesting that only a small proportion of the variance in these variables is explained by the model. Despite this, the results provide an initial overview of the interaction.

1. Outer Model

The outer model assesses the reliability and validity of the measurement model, ensuring that each indicator accurately represents its latent construct. This includes convergent validity (examined

via indicator loadings), composite reliability, and discriminant validity, assessed using the Average Variance Extracted (AVE). Establishing these properties confirms that the measurement model is sound and suitable for further structural analysis.

a. Convergent Validity

Convergent validity was examined through indicator loadings. As shown in Figure 1, most indicators exhibit standardised loading values above the recommended threshold of 0.70, indicating a strong representation of their respective constructs. For instance, indicators such as GBI1 (0.946), GBI3 (0.856), PV1 (0.901), and PEI2 (0.913) demonstrate high reliability in measuring their underlying dimensions. These results suggest that the constructs, including Green Brand Image (GBI), Perceived Value (PV), and Perceived Environmental Importance (PEI), are empirically well-defined and internally consistent. However, the PA construct shows low convergent validity, as several of its indicators (e.g., PA1 = 0.129 and PA2 = 0.101) fall below the recommended loading threshold of 0.70, indicating that these items do not vigorously represent the latent construct. This suggests that respondents may have interpreted these items inconsistently, reducing the construct's overall measurement strength. Despite these variations, the overall pattern of loadings supports acceptable convergent validity, as most indicators maintain satisfactory loadings and contribute meaningfully to construct representation.

From a theoretical perspective, these findings confirm that consumers' cognitive and affective components, such as awareness, attitude, and perceived environmental importance, can be empirically differentiated yet conceptually interconnected within the broader framework of green consumption behaviour. Empirically, this implies that the indicators used in this study effectively capture the multidimensional aspects of sustainable consumer behaviour, providing a reliable measurement basis for subsequent structural model analysis.

b. Discriminant Validity

Discriminant validity was tested using the Fornell–Larcker criterion, which compares the square root of the Average Variance Extracted (AVE)

with the inter-construct correlations. As summarised in **Table 1**, all diagonal AVE square root values are higher than the corresponding correlations among constructs, indicating that each construct shares more variance with its indicators than with other constructs in the model. This result supports adequate discriminant validity (Achjari, 2012).

Table 1. AVE Value

	Average Variance Extracted (AVE)
AGB	0.503
CA	0.542
EA	0.623
GBI	0.575
GBP	0.511
GPI	0.637
PA	0.692
PEI	0.594
PV	0.633
PVP	0.728
WTP	0.612

Source: Researcher Analysis, 2025

As shown in **Table 1**, all constructs obtained AVE values above the 0.50 threshold, ranging from 0.503 to 0.728, indicating that more than half of the variance in each indicator is explained by its corresponding latent variable. This demonstrates that the observed items are consistent and conceptually coherent in their representation of their constructs. Theoretically, these results reinforce the validity of the measurement model, confirming that constructs such as environmental awareness, attitude, and green purchase intention are empirically distinct and adequately captured through their respective indicators. From an empirical standpoint, the findings suggest that consumers' cognitive and affective responses toward sustainable products can be reliably measured through these constructs, providing a solid foundation for subsequent analysis of behavioural intention and willingness to pay. Thus, convergent validity is established, strengthening confidence in the model's ability to capture the theoretical dimensions of green consumer behaviour (Hair et al., 2017).

c. Composite Reliability

The next step is to assess the reliability of the constructs. Reliability testing aims to ensure that the measurement items used are consistent and stable in their representation of the underlying latent variables. In PLS-SEM, internal consistency is commonly examined through Cronbach's alpha and composite reliability (ρA), which reflect the degree to which the indicators of a construct are correlated and measure the same concept. High reliability values indicate that the construct can be trusted to produce consistent measurement results across different samples or contexts.

Table 2. Composite Reliability

	Cronbach's alpha	Composite reliability (rho_a)
AGB	0.830	0.821
CA	0.827	0.863
EA	0.832	0.827
GBI	0.907	0.892
GBP	0.808	0.830
GPI	0.905	0.903
PA	0.924	0.925
PEI	0.930	0.926
PV	0.883	0.879
PVP	0.817	0.904
WTP	0.889	0.881

Source: Researcher Analysis, 2025

Composite reliability and Cronbach's alpha were used to assess the internal consistency of the measurement model. As presented in **Table 2**, all constructs show Cronbach's alpha values ranging from 0.808 to 0.930 and composite reliability values (ρA) between 0.821 and 0.926, exceeding Reflects measurement stability; it may also signal potential indicator redundancy, meaning that some items the recommended threshold of 0.70 (Hair et al., 2019). However, the two constructs, Perceived Attitude (PA) and Perceived Environmental Importance (PEI), show relatively high composite reliability values (0.925 and 0.926, respectively). While such high reliability generally could be overly similar or repetitive in capturing the exact dimension of the construct. This condition warrants

further refinement in future studies to ensure that each indicator provides unique and complementary information rather than overlapping measurement content. These results confirm that the indicators for each construct are consistently measuring the same underlying latent variable.

From a theoretical standpoint, this internal consistency supports the robustness of constructs such as Green Purchase Intention (GPI), Perceived Environmental Importance (PEI), and Green Brand Image (GBI) in representing consumers' dimensions of sustainable behaviour. Empirically, it indicates that the measurement model is reliable and can produce stable, replicable results in future studies in similar green consumption contexts.

2. Inner Model

The evaluation of the inner model was conducted using the coefficient of determination (R^2) and overall model fit indices.

Table 3. R-Square

	R-square	R-square adjusted
CA	0.463	0.449
GBI	0.329	0.322
GPI	0.505	0.488
WTP	0.202	0.202

Source: Researcher Analysis, 2025

As presented in **Table 3**, the R^2 values for Cognitive Awareness (CA), Green Brand Image (GBI), Green Purchase Intention (GPI), and Willingness to Purchase (WTP) are 0.463, 0.329, 0.505, and 0.202, respectively. According to Chin (1998), R^2 values of 0.19, 0.33, and 0.67 correspond to weak, moderate, and substantial explanatory power, respectively. Based on this guideline, Brand image and perceived environmental importance in shaping CA and GPI show moderate explanatory power, GBI indicates a weak-to-moderate level, while WTP demonstrates a relatively weak level of explanation.

Theoretically, these findings suggest that the antecedent constructs explain, to a moderate extent, variation in consumers' cognitive awareness and purchase intentions toward green products. This reflects the significance of awareness, eco-friendly behavioural tendencies. However, the low R^2 value for WTP

(0.202) indicates that while purchase intention influences willingness to buy, other unmeasured factors, such as price perceptions, product availability, or individual moral norms, may still affect consumers' final decisions.

When compared to previous studies on green consumer behaviour, the obtained R^2 values are consistent with those reported by Chen & Chang (2012) and Biswas & Roy (, who found moderate explanatory strength ($R^2 \approx 0.30–0.50$) for models linking green awareness, attitude, and purchase intention. Thus, the current model demonstrates theoretical alignment with prior research and provides empirical evidence that the proposed framework effectively captures the dynamics of sustainable consumer decision-making, with opportunities for further refinement to enhance its predictive capability, particularly regarding willingness to purchase.

3. Fit Model

Model fit analysis was performed to evaluate how well the proposed structural model represents the observed data. Several model fit indices were examined, including the Standardised Root Mean Square Residual (SRMR), the Chi-square, and the Normed Fit Index (NFI), as recommended by Henseler et al. (2016) and Hair et al. (. An SRMR value below 0.08 and an NFI value of 0.80 or higher generally indicate an acceptable model fit. **Table 4** below presents the model fit results, providing an overview of how well the proposed structural model aligns with the observed data.

Table 4. Model Fit

	Saturated model	Estimated model
SRMR	0.077	0.079
d_ULS	3.989	4.107
d_G	0.787	0.808
Chi-square	1155.566	1156.586
NFI	0.804	0.837

Source: Researcher Analysis, 2025

The results show that the SRMR value of the estimated model is 0.079, which falls within the acceptable threshold (<0.08), demonstrating that the difference between the observed and predicted correlations is minimal. The NFI value

of 0.837 further confirms a satisfactory fit, indicating that the hypothesised structural relationships account for a substantial portion of the observed covariance structure. Additionally, the Chi-square value (1156.586), though relatively high, is typical in complex structural models with multiple constructs and indicators, indicating that minor deviations between the empirical and theoretical covariance matrices are expected.

From a theoretical standpoint, these results suggest that the proposed framework effectively captures the interrelationships among green consumer behaviour constructs. The model captures the multidimensional interactions among cognitive (awareness and perception), affective (attitudes), and behavioural (intentions and willingness to pay) factors that shape sustainable purchasing behaviour. Empirically, this acceptable level of model fit suggests that the measurement and structural components are correctly specified, thus providing a solid basis for interpreting the subsequent hypothesis testing and path analysis.

4. Hypothesis Test

The structural model evaluation examined the relationships among the latent constructs in the proposed framework (Figure 2). The following paragraphs describe the results of each hypothesis, their theoretical interpretations, and implications for green marketing practices.

- Hypothesis (H1) tested the effect of Product Attributes (PA) on Customer Attitude (CA). The result shows a path coefficient of –0.174 with a p-value of 0.384, indicating a negative and insignificant effect. This suggests that product attributes alone do not strongly influence customers' attitudes toward green products. The finding contrasts with that of Chen & Chang (2012), who reported that green design and product quality can enhance customer attitudes when the environmental benefits are salient. This insignificant relationship may arise because consumers perceive eco-friendly features as standard rather than distinctive attributes. Practically, marketers should therefore emphasise both emotional and symbolic value, in addition to product functionality, to shape stronger attitudes.

- Hypothesis (H2) examined the relationship between Price and Value Perception (PVP) and Customer Attitude (CA). The coefficient value of –0.062, with a p-value of 0.028, indicates a negative and statistically significant effect. This implies that higher perceived price sensitivity or perceived value imbalance may lead to reduced positive attitudes toward green products among consumers. The result aligns with Mohd Suki, who found that consumers often view green products as overpriced compared to conventional alternatives. This finding underscores the importance of companies communicating the long-term economic and environmental benefits of their products, rather than focusing solely on premium pricing.
- Hypothesis (H3), the effect of Perceived Value (PV) on Customer Attitude (CA) was tested. The coefficient of 0.135, with a p-value of 0.024, confirms a positive and statistically significant relationship. This means that consumers who perceive higher functional and emotional value in green products tend to form more favourable attitudes toward them. The result is consistent with Hartmann and Apaolaza-Ibáñez (2012), who emphasised that emotional connection and functional benefits jointly influence attitudes towards green products. The implication is that marketers should highlight both environmental responsibility and user satisfaction to enhance perceived value.
- Hypothesis (H4) assessed the effect of Perceived Environmental Importance (PEI) on Customer Attitude (CA). The coefficient value of 0.050, with a p-value of 0.013, indicates a positive and statistically significant relationship. This suggests that consumers who view environmental protection as an essential personal value tend to develop more positive attitudes toward eco-friendly products. This result supports Yadav & Pathak (2017), who identified environmental concern as a significant determinant of pro-environmental behaviour. In practice, these findings suggest that educational campaigns that emphasize ecological responsibility can help strengthen consumer attitudes toward green brands.

- Hypothesis (H5) examined whether Green Brand Positioning (GBP) influences Green Brand Image (GBI). The analysis yields a coefficient of 0.081 with a p-value of 0.007, indicating a positive, significant effect. This means that brands that clearly communicate their environmental positioning tend to build stronger green brand images in consumers' minds. The result aligns with Chen & Chang, who argued that well-defined green positioning enhances consumer trust and brand association. This implies that consistent environmental messaging across marketing channels is crucial for improving brand credibility.
- Hypothesis (H6) tested the relationship between Attitude toward Green Brand (AGB) and Green Brand Image (GBI). The coefficient of –0.152, with a p-value of 0.001, indicates a negative but statistically significant relationship. This finding is somewhat counterintuitive, as it contradicts previous studies, such as those by Chen & Chang (2012), which found a positive association. The negative result may suggest the presence of "green scepticism," where consumers' favourable attitudes toward sustainability do not fully translate into a positive brand image due to doubts about authenticity. This highlights the importance of transparent communication and third-party environmental certifications in maintaining brand credibility.
- Hypothesis (H7) evaluated the influence of Customer Attitude (CA) on Green Purchase Intention (GPI). The result shows a coefficient of –0.180 with a p-value of 0.010, indicating a negative and significant effect. This pattern reveals the existence of an attitude–behaviour gap, where positive attitudes do not necessarily lead to purchase intentions. The finding supports Joshi & Rahman, (2015), who reported that while consumers may hold favourable views of green products, situational factors such as price, trust, and product availability often hinder actual purchase intentions. In practice, marketers should reduce this gap through incentives, trust-building, and easier access to products.
- Hypothesis (H8) tested the relationship between Green Brand Image (GBI) and Green Purchase Intention (GPI). The coefficient of –0.000, with a p-value of 0.999,

indicates an adverse, insignificant effect. This finding suggests that a green brand image does not necessarily drive purchase intentions in this study. This contrasts with Chen & Chang (2012), who found a strong positive link in more mature green markets. A possible explanation is that consumers in this context still have limited trust or familiarity with green branding efforts. Therefore, companies should enhance credibility through consistent actions, eco-labels, and verified sustainability claims.

- Hypothesis (H9) analysed the effect of Green Purchase Intention (GPI) on Willingness to Pay (WTP). The result shows a coefficient of 0.044 with a p-value of 0.024, indicating a positive, significant effect. This suggests that consumers with stronger purchase intentions are also more willing to pay a premium for environmentally friendly products. The result supports (2020), who suggested that intention serves as a moral commitment, leading to a higher willingness to pay. This implies that strengthening consumers' green intentions through targeted education and brand storytelling can encourage greater financial support for sustainable products.
- The moderating effect of Environmental Awareness (EA) was analysed on the relationships between CA and GPI, and between GBI and GPI. The moderation results indicate that Environmental Awareness strengthens both relationships, with $\beta = 0.048$ ($p < 0.001$) for CA → GPI and $\beta = 0.015$ ($p < 0.001$) for GBI → GPI. These results highlight that consumers with higher environmental awareness tend to convert their attitudes and brand perceptions into actual purchase intentions more effectively. From a theoretical standpoint, this confirms the moderating role of awareness in bridging the attitude–intention gap. Practically, it suggests that campaigns emphasising environmental literacy can enhance the overall impact of green marketing strategies.

CONCLUSIONS

This study aimed to empirically examine the relationships among environmental awareness, attitude, green purchase intention, and willingness to pay within the framework of integrating the Theory of Planned Behaviour (TPB) and the

sustainable behaviour model. Using PLS-SEM analysis with data from 250 respondents in Semarang City, the findings offer valuable insights into the psychological and behavioural mechanisms underlying green consumer behaviour in an emerging market context.

The results demonstrate that consumers' perceptions of product value and environmental importance significantly shape their attitudes toward green products, confirming that both cognitive and affective factors jointly influence attitudinal formation. Furthermore, customer attitude and green brand positioning are shown to play essential roles in driving the green brand image and purchase intention, although some relationships, such as that between attitude and intention, reveal an attitude–behaviour gap often observed in sustainability research. Importantly, environmental awareness significantly moderates the relationship between attitude and purchase intention, suggesting that higher awareness strengthens consumers' translation of positive attitudes into actual behavioural intention.

In practical terms, these findings underscore the importance for marketers to focus not only on product quality and brand positioning but also on enhancing environmental literacy and emotional engagement to achieve stronger behavioural outcomes. Theoretically, the study contributes by validating an integrated framework that bridges cognitive, attitudinal, and behavioural dimensions of sustainable consumption. Overall, this research provides empirical support for extending TPB through environmental and value-based constructs, offering new perspectives on how awareness and perceived value drive consumers' willingness to pay for green products in developing economies.

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