



Regular article

# Unlocking Sustainable Purchase Intention: Attitude as a Psychological Hub between Perceived Consumer Effectiveness and Environmental Knowledge

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## ABSTRACT

Amid accelerating ecological degradation, understanding the psychological drivers behind eco-friendly consumption has become paramount for sustainable market growth. This study aims to investigate the influence of perceived consumer effectiveness and environmental knowledge on purchase intentions for sustainable products, with attitude as a mediator. Utilizing a quantitative cross-sectional survey design, primary data were gathered from 189 purposively sampled consumers and evaluated using Partial Least Squares Structural Equation Modeling (PLS-SEM). The structural model assessment revealed that perceived consumer effectiveness and environmental knowledge are vital antecedents of consumer attitude. Furthermore, the results also reveal the significant role of attitude in determining purchase intentions for sustainable products. Finally, attitude plays a significant role in mediating the influence of perceived consumer effectiveness and environmental knowledge on purchase intentions for sustainable products. The findings of this study provide important implications for marketers in developing marketing strategies for sustainable products.

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## Introduction

In recent decades, the urgency for sustainable consumption has shifted from a mere moral trend to a global ecological imperative (Mollah et al., 2025). Rising public awareness of the climate crisis, plastic pollution, and environmental degradation has driven the market to provide a variety of green product alternatives (Mishra et al., 2023). However, marketers and academics still face a classic puzzling phenomenon: the green attitude-behavior gap, where people's expressed environmental concerns are often not reflected in their actual purchasing behavior (Li et al., 2021; Weissmann & Hock, 2022). This barrier indicates that the psychological processes underlying consumers' decisions to adopt sustainable products are far more complex than mere superficial preferences (Kim et al., 2020). Therefore, understanding the internal factors that can bridge consumers' psychological orientations into concrete purchase intentions

(sustainable purchase intention) is crucial and requires further exploration.

Theoretically, previous consumer behavior literature has relied heavily on purely cognitive models, such as the Theory of Planned Behavior (TPB) (Chan et al., 2025; Ghaffar et al., 2025; Lavuri, 2022) or Value-Belief-Norm (VBN) (Carmona et al., 2024; Kautish et al., 2024; Lim et al., 2023), to explain purchase intentions through attitude formation. In this landscape, environmental knowledge is often positioned as a primary antecedent, assumed to automatically stimulate positive attitudes toward sustainable products (Rusyani et al., 2021). Logically, the greater a person's understanding of ecological issues and green product labels, the more positive their evaluation of sustainable consumption behavior (Anand & Sharma, 2023). This linear assumption has dominated various market education strategies for years, with the premise that providing widespread information about the environmental crisis is key to changing consumers' perspectives

and actions in the marketplace (Suhartanto et al., 2023).

However, this purely cognitive approach has come under sharp criticism in contemporary literature for oversimplifying human rationality and often producing inconsistent findings (Truong et al., 2026). Environmental knowledge is inherently passive and external; a consumer may possess a deep understanding of the impacts of global warming, but that knowledge remains powerless if they lack personal engagement. When faced with green product options that are often more expensive or less practical, pure knowledge often trumps personal convenience (Tran, 2026). This limitation indicates a significant theoretical gap, where cognitive factors alone are insufficient to drive consumers' evaluative structures without the presence of internal, self-efficacy-oriented motivational drives.

To address these limitations, this study proposes an integration of cognitive factors (environmental knowledge) and motivational factors, represented through perceived consumer effectiveness (PCE). Unlike knowledge, which focuses on "what is known" (Rousta & Allaf Jafari, 2024), PCE focuses on the psychological aspect of "what consumers believe they can change" through their individual actions (Lavuri et al., 2022). PCE acts as an internal locus of control, assuring consumers that their small decisions at the checkout—such as choosing environmentally friendly products—make a real contribution to mitigating environmental damage (Zheng et al., 2023). Without a strong PCE, extensive environmental knowledge will only lead to feelings of helplessness, which actually hinders the formation of positive attitudes toward sustainable products (Wang et al., 2021).

In the proposed conceptual model, attitude is positioned as a crucial mediator, functioning as a psychological processing hub. Attitude plays a crucial role in filtering cognitive information from environmental knowledge and efficacy beliefs from PCE before these two domains are transformed into commitment to action in the form of purchase intentions (Lavuri et al., 2022). This integration projects that a strong positive attitude that is resistant to market barriers (such as premium prices) will only develop if consumers are not only aware of environmental problems but also feel empowered and believe they are part of the ecological solution. This mediation relationship is expected to unravel the complexity of forming purchase intentions through the synergy of cognitive and motivational domains, which have often been tested separately.

Based on this gap, this study aims to investigate the role of PCE and environmental knowledge in determining purchase intentions for sustainable products, with attitude as a mediator.

## Methods

This quantitative research employed a cross-sectional survey design with a non-probability sampling technique through a purposive sampling approach to ensure that the selected respondents had high contextual relevance to the research object. The sample inclusion criteria were adult consumers (at least 18 years old) who were aware of environmental issues and had or

were considering purchasing sustainable products in the past six months. Primary data collection was conducted independently (self-administered) through the distribution of a web-based electronic questionnaire (Google Forms) distributed across digital platforms to ensure broad demographic representation. The minimum sample size was determined based on the rule of ten times the number of indicators. From the specified data distribution period, a total of 189 valid responses were obtained that were fully completed and met the inclusion criteria for further analysis. Table 1 displays the demographic data of the respondents.

Table 1. Respondent Characteristics

Data	Frequency	Percentage (%)
<b>Gender</b>		
Male	72	38,1%
Female	117	61,9%
<b>Age</b>		
18 - 25 years old	85	45,0%
26 - 35 years old	62	32,8%
36 - 45 years old	30	15,9%
> 45 years old	12	6,3%
<b>Education</b>		
High school	43	22,8%
Diploma	21	11,1%
Bachelor	108	57,1%
Postgraduate	17	9,0%
<b>Occupation</b>		
Student	68	36,0%
Private sector employee	74	39,2%
Civil servant	23	12,2%
Entrepreneur	14	7,4%
Others	10	5,2%

Source: Primary data processed (2026)

All constructs in this research's operational model were measured using multi-item scales adopted and adapted from established literature to ensure content validity. The construct of environmental knowledge was measured using an instrument adapted from Suhartanto et al. (2023), encompassing consumer understanding of global ecological issues and green product symbols. PCE was operationalized using an instrument adapted from Zheng et al. (2023) to measure respondents' level of confidence in the impact of their individual contributions to environmental improvement. Attitude toward sustainable products was assessed using an instrument adapted from Wang et al. (2021). Finally, sustainable purchase intention was measured using items adapted from Zheng et al. (2023) to capture consumers' probability and volitional readiness to purchase environmentally friendly products. All questionnaire items were measured using a 5-point Likert Scale (ranging from 1 = Strongly Disagree to 5 = Strongly Agree). Figure 1 displays the conceptual framework of this study.

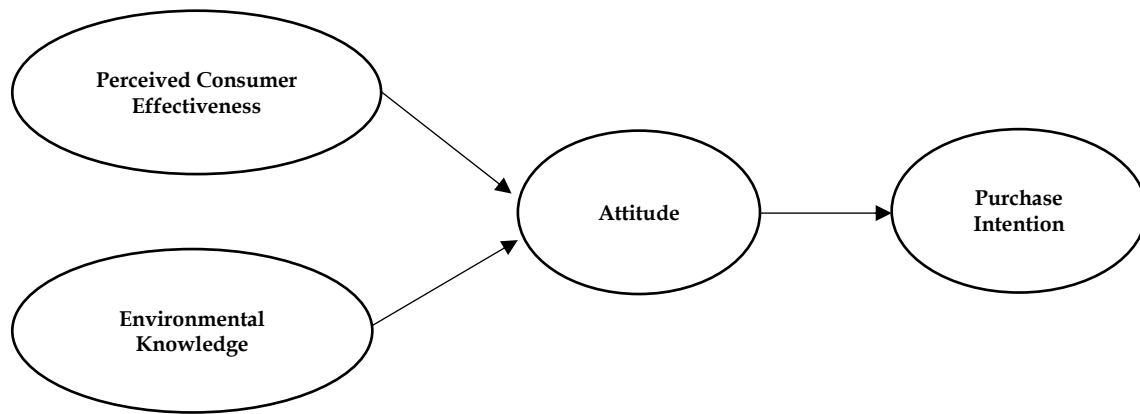


Figure 1. Conceptual Framework

**Results and Discussion**

*Measurement Model Evaluation*

Measurement model evaluation was conducted to ensure that the research instrument met validity and reliability criteria before testing the structural model. This evaluation included convergent validity, internal consistency reliability, and discriminant validity (Hair et al., 2019). Convergent validity was evaluated based on the outer loading values for each indicator and the Average Variance Extracted (AVE) values for each latent construct. Based on the analysis, all indicators demonstrated outer loading values above the critical threshold of 0.70 (Table 2). This indicates that each individual indicator makes a strong contribution to representing the latent construct it measures. Consistently, the quality of model convergence was strengthened by the achievement of AVE values for all variables, which consistently exceeded the minimum standard of 0.50 (Table 2).

Table 2. Validity and Reliability Results

Items	Loadings	AVE	Cronbach's alpha	Composite reliability
<b>Perceived Consumer Effectiveness</b>				
PCE1	0.900	0.735	0.816	0.892
PCE2	0.912			
PCE3	0.750			
<b>Environmental Knowledge</b>				
EK1	0.837	0.754	0.923	0.929
EK2	0.906			
EK3	0.908			
EK4	0.899			
EK5	0.786			
<b>Attitude</b>				
ATT1	0.802	0.644	0.820	0.878
ATT2	0.764			
ATT3	0.794			
ATT4	0.848			
<b>Purchase Intention</b>				
PI1	0.887	0.779	0.858	0.913
PI2	0.924			
PI3	0.835			

Furthermore, discriminant validity was evaluated using the Heterotrait-Monotrait Ratio of Correlations (HTMT) approach. Based on the resulting HTMT correlation matrix, all inter-construct ratio values were below the established conservative threshold of 0.85, indicating good discriminant validity (Table 3).

Finally, the internal consistency reliability test was assessed using Cronbach's Alpha and Composite Reliability (CR)

indicators. The test results showed that all latent constructs had Cronbach's Alpha and CR values above the recommended threshold of 0.70, confirming that the indicators have excellent reliability, accuracy, and internal consistency (Table 2).

Table 3. Discriminant Validity Results

Constructs	(1)	(2)	(3)	(4)
(1) Attitude	-	-	-	-
(2) Environmental Knowledge	0.280	-	-	-
(3) PCE	0.294	0.617	-	-
(4) Purchase Intention	0.429	0.816	0.726	-

*Structural Model Evaluation*

After the measurement model (outer model) was declared valid and reliable, the next step was to evaluate the structural model (inner model). This evaluation aimed to predict the relationships between latent constructs and assess the strength of the model through the coefficient of determination (R<sup>2</sup>) and the significance of the paths through hypothesis testing using the bootstrapping method (Hair et al., 2019).

Based on the results of the structural analysis (Table 4), the attitude construct yielded an R<sup>2</sup> value of 0.531. This indicates that 53.1% of the variance in consumer attitudes can be explained by environmental knowledge and PCE. Meanwhile, the purchase intention construct yielded an R<sup>2</sup> value of 0.474. This figure demonstrates that 47.4% of the variance in purchase intentions can be explained by environmental knowledge, PCE, and attitude, while the remaining 52.6% is explained by factors outside the research model.

Furthermore, the results of the hypothesis testing indicated that all hypotheses proposed in this study were empirically accepted as they met the required statistical threshold (Table 4). Specifically, environmental knowledge ( $\beta=0.412$ ;  $p=0.000$ ) and PCE ( $\beta=0.383$ ;  $p=0.000$ ) were shown to have a positive and significant influence on consumer attitudes. Furthermore, attitudes were also shown to have a positive and significant direct influence on purchase intentions for sustainable products ( $\beta=0.501$ ;  $p=0.000$ ). Finally, attitudes were shown to significantly mediate the influence of PCE ( $\beta=0.289$ ;  $p=0.000$ ) and environmental knowledge ( $\beta=0.311$ ;  $p=0.000$ ) on purchase intentions for sustainable products.

Table 4. Hypothesis Testing Results

Path	Coefficients	P-values	R <sup>2</sup>
PCE -> Attitude	0.383	0.000	0.531
Environmental Knowledge -> Attitude	0.412	0.000	
Attitude -> Purchase Intention	0.501	0.000	0.474
PCE -> Attitude -> Purchase Intention	0.289	0.000	-
Environmental Knowledge -> Attitude -> Purchase Intention	0.311	0.000	-

## Discussion

The findings of this study reveal that environmental knowledge has a positive and significant influence on consumer attitudes in the context of sustainable consumption. This finding confirms that broadened cognitive insights regarding the ecological crisis, pollution, and an understanding of the function of green products serve as a crucial rational foundation for consumers to construct favorable evaluative judgments. When consumers have a sound understanding of the urgency of environmental degradation, this objective information will be absorbed into their cognitive structure and crystallized into behavioral beliefs that support the adoption of environmentally friendly products. Furthermore, this research finding reinforces previous studies that asserted that ecologically educated consumers tend to have a significantly more positive evaluative disposition toward green consumption alternatives in the market (Rusyani et al., 2021).

Furthermore, this study also revealed that PCE has a positive and significant influence on consumer attitudes. This finding demonstrates that the formation of positive attitudes is not solely driven by external information factors but also relies heavily on internal motivational factors such as a sense of self-empowerment. When individuals have a strong belief that the small purchasing decisions, they make at the checkout have a tangible impact on reducing damage to the planet, this self-efficacy will eliminate the perception of powerlessness that often arises in the midst of a massive global crisis. The psychological effect of this sense of empowerment stimulates positive affect and high enthusiasm, which in turn crystallizes into an attitude that strongly supports sustainable products. The success of this test supports the study from Wang et al. (2021) that PCE is a deterministic driver that directly transforms personal motivation into positive evaluations of environmental protection actions.

This study also revealed that attitude has a direct, positive, and significant influence on purchase intentions for sustainable products. This finding indicates that attitude is a strong and consistent predictor in guiding individual behavioral intentions. When consumers have a mature, positive, and aligned evaluation of sustainability values, this internal disposition will create a strong psychological drive to align these beliefs into concrete action plans. A strong positive attitude has been shown to minimize various market barriers that often trigger consumer hesitation (Chan et al., 2025). These results provide empirical verification that the higher the level of preference and perceived usefulness consumers feel for environmentally friendly products, the higher their probability of demonstrating a concrete purchase commitment in the future.

Finally, this study's findings reveal that attitude plays a

significant mediating role in the influence of PCE and environmental knowledge on purchase intentions for sustainable products. This finding successfully unravels the complexity of consumer psychology through cognitive-motivational arguments. Extensive ecological knowledge (cognitive factors) and a strong sense of self-empowerment (motivational factors) are essentially latent and cannot automatically drive market decisions without first undergoing a process of evaluative crystallization. Attitudes function as psychological processing hubs that absorb objective information about the global crisis and consumers' personal efficacy beliefs, then transform them into positive and favorable affective evaluation structures. Through this mediation channel of attitudes, cognitive and motivational energy is activated into a powerful volitional drive, thereby converting consumers' internal concerns into concrete commitments to action in the form of intentions to purchase environmentally friendly products.

## Conclusion

This study concludes that environmental knowledge and PCE are deterministic antecedents that significantly drive consumer attitude formation, with these attitudes proven to act as absolute generative mediators in converting internal awareness into concrete actions in the form of purchase intentions for sustainable products. Theoretically, these findings make an important contribution to the literature on sustainable behavior by successfully unraveling the psychological mechanisms behind the knowledge-behavior gap phenomenon. This research demonstrates that ecological knowledge and a sense of self-efficacy cannot stand alone to drive market decisions but must first be filtered and activated through a positive attitude processing space. Practically, this study provides guidance for green industry marketers to shift from simply general environmental information campaigns to interactive, evidence-based marketing communication strategies, such as presenting concrete impact metrics (e.g., the amount of carbon or plastic emissions reduced per product) directly on packaging to strengthen consumers' PCE and crystallize their attitudes into concrete purchase intentions.

While providing strong model confirmation, this study suffers from inherent limitations in its use of a cross-sectional survey design that only captures respondents' perceptions at a single point in time, as well as the limited geographic scope of the sample, which may limit the generalizability of the results to the broader market landscape. Furthermore, this model only explains 47.4% of the variance in purchase intention, indicating substantial room for other unexplored external factors. Therefore, future research is recommended to adopt a longitudinal approach to observe the consistency of behavioral changes over time, as well as expand the structural model by integrating relevant external contextual variables in real markets, such as green perceived price, eco-labeling and availability, or green brand trust, to improve the predictive power of this sustainable consumer behavior model more comprehensively.

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