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Analysis of Consumer Intention to Resist Eco-Label Product Purchases: an Innovation Resistance Theory Approach

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ABSTRACT

Eco label products have gained prominence alongside the growing awareness of environmental issues. However, consumer resistance toward purchasing eco-labeled products remains a significant barrier, especially in developing countries such as Indonesia. This study aims to analyze the influence of five innovation resistance factors on the intention to resist eco-label product purchases: usage barrier, value barrier, risk barrier, traditional barrier, and image barrier. Using a quantitative approach and PLS-SEM analysis, data were collected from 213 Millennial and Gen Z respondents across major cities in Java, Indonesia. The results indicate that value barrier, traditional barrier, and image barrier have a significant positive influence on resistance, while usage barrier shows no significant effect, and risk barrier has a negative influence. Image barrier emerged as the most dominant factor. This study contributes to the extension of Innovation Resistance Theory (IRT) in the context of environmentally friendly products and offers practical implications for industry players to build credibility and improve consumer perception of eco-labeled products.

Keywords: Innovation Resistance Theory (IRT), Eco-Label, Consumer Resistance, PLS-SEM

INTRODUCTION

Global environmental challenges such as climate change, biodiversity loss, and resource depletion have accelerated the global push toward sustainable production and consumption (UNEP, 2020). *Green consumption*, defined as the deliberate choice of products with minimal environmental impact across their life cycle, has become a central pillar in achieving these goals (Nguyen et al., 2020). According to PUSFASTER, Ministry of Environment and Forestry of Indonesia, the eco-label is a logo or statement label that indicates environmental aspects and serves as one of the instruments for environmental management (KLHK, 2025). Kantar's *Who Cares? Who Does?* The report (2023) shows that the global "Eco-Active" segment has reached 22% of consumers and could spend USD 1 trillion by 2027, yet 43% cite financial constraints as a barrier (Kantar, 2023). Similarly, Untold Insight (a *London-based Market research firm*) notes that although Millennials and Gen Z demonstrate high climate awareness, 96% cannot afford sustainable products and 53% prioritize affordability over environmental impact, reflecting a persistent attitude-behavior gap (Whiteboard Journal, 2023).

In Indonesia, sustainability awareness is among the highest in Asia Pacific, with 86% of consumers considering it more important than two years ago (NielsenIQ, 2023). Nonetheless, fewer

than 100 products are actively certified under the Ministry of Environment and Forestry's Type I and Type II eco-label schemes (KLHK, 2025). Consumer literacy regarding the meaning of eco-labels also remains low (YouGov, 2022). This situation is further exacerbated by the prevalence of greenwashing practices, which foster skepticism among consumers (Ikhsan, 2025).The *PwC Voice of the Consumer* survey (2025) reveals that 50% of Indonesians are concerned about economic instability and rising living costs, leading them to buy less or opt for cheaper alternatives, while 62% express concern about climate change without making it a consistent purchase driver (PwC, 2025). This illustrates the persistence of the attitude behavior gap in sustainable consumption.

Existing research in Indonesia has predominantly examined positive purchase intentions toward eco-labeled products through the Theory of Planned Behavior (TPB) (Viajeng, 2023; Illahi et al., 2024; Irfany et al., 2024). However, findings remain inconsistent; some studies show significant effects of eco-labels on purchase intention, while others report no significant relationship (Shafira et al., 2022; Lukmawan & Wulandari, 2024; Ristiyana et al., 2025). These mixed results highlight the need for alternative theoretical frameworks that can explain consumer resistance to eco-labeled products.

The Innovation Resistance Theory (IRT) by Ram and Sheth (1989) provides a comprehensive framework to analyze consumer resistance, identifying five primary barriers: usage, value, risk, tradition, and image. Although IRT has been applied in contexts such as green cosmetics (Kurnia & Mayangsari, 2020), zero-waste products (Sang et al., 2022), online travel services (Talwar et al., 2020), and sustainable product resistance in emerging markets (Sadiq et al., 2021), its application to the eco-label context in Indonesia remains limited, with only two known studies (Kurnia & Mayangsari, 2020; Puspitasari & Alversia, 2023). Addressing this gap, the present study applies IRT to investigate the influence of usage, value, risk, tradition, and image barriers on consumers' intention to resist purchasing eco-labeled products in metropolitan areas of Java, Indonesia. The study contributes theoretically by extending IRT to the eco-label context in a developing market and practically by offering strategic insights for policymakers, marketers, and industry stakeholders to reduce consumer resistance, thereby supporting the achievement of SDG 12.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Sustainability and Eco Label Products

Sustainability refers to the capacity to maintain a process or state over time. According to the American Institute of Architects, it encompasses a society's ability to endure by utilizing natural resources without overexploitation, ensuring that essential systems remain functional for future needs. The concept of sustainability emerged from global concerns over the imbalance between environmental, social, and economic conditions. Its core principle lies in harmonizing three key pillars economic, social, and environmental commonly referred to as the *Triple Bottom Line* (TBL) (Elkington, 1997).

Aligned with this, the United Nations' Sustainable Development Goals (SDGs) were formally adopted in 2015, comprising 17 goals and 169 targets aimed at addressing poverty, inequality, and environmental issues by 2030. Particularly relevant to this study is SDG 12, which promotes responsible consumption and production, including the adoption of eco-label products.

An eco label is defined as a mark or label indicating that a product is environmentally friendly (ISO 14020). In Indonesia, eco labels are regulated under the Ministry of Environment Regulation No. 2/2014 and categorized into Type I (third-party certification) and Type II (self-declared

environmental claims). Eco labels serve as reliable and non-misleading communication tools, informing consumers about the environmental attributes of a product or its packaging.

Innovation Resistance Theory (IRT)

The *Innovation Resistance Theory* (IRT) proposed by Ram and Sheth (1989) explains why consumers may resist adopting innovations despite their benefits. Resistance is seen as a natural consumer response when an innovation disrupts established routines, values, or perceptions. IRT identifies five key barriers—usage, value, risk, tradition, and image—that delay or prevent adoption. The theory has been applied in various contexts, including green cosmetics (Kurnia & Mayangsari, 2020), zero-waste products (Sang et al., 2022), online travel services (Talwar et al., 2020), and sustainable product adoption in emerging markets (Sadiq et al., 2021). In Indonesia's eco-label context, where awareness is high but adoption remains low, these barriers provide a relevant lens for examining consumer resistance.

Usage barrier refers to the perceived incompatibility between an innovation and existing habits (Ram & Sheth, 1989). In eco-labels, this can mean products are harder to find, require changes in routines, or have limited retail availability. Studies show that such incompatibility can slow adoption of sustainable products (Nguyen et al., 2020; Kurnia & Mayangsari, 2020).

H1: Usage barrier has a positive and significant effect on the intention to resist eco-label product purchase.

Value barrier occurs when perceived benefits do not justify the price (Ram & Sheth, 1989). In sustainable products, higher prices and uncertain added value often deter consumers. Sadiq et al. (2021) found value barrier to be a major factor in emerging markets. Indonesian studies and reports (Kantar, 2023; Whiteboard Journal, 2023) confirm that affordability strongly influences purchase behavior.

H2: Value barrier has a positive and significant effect on the intention to resist eco-label product purchase.

Risk barrier involves concerns about functional, financial, or social uncertainty (Ram & Sheth, 1989). For eco-labeled products, this includes doubts about the quality, performance, or authenticity of environmental claims. Some studies (Sadiq et al., 2021) show that higher risk perception increases resistance, while others suggest that motivated consumers may overlook risks (Talwar et al., 2020).

H3: Risk barrier has a positive and significant effect on the intention to resist eco-label product purchase.

Tradition barrier reflects a preference for established products and cultural consumption patterns (Ram & Sheth, 1989). Attachment to conventional products due to habit, familiarity, or perceived reliability has been shown to slow sustainable product adoption (Kurnia & Mayangsari, 2020; Sang et al.,2022).

H4: Tradition barrier has a positive and significant effect on the intention to resist eco-label product purchase.

Image barrier concerns negative perceptions about the innovation or its category, including doubts about certification credibility or environmental benefits (Ram & Sheth, 1989). Sadiq et al. (2021) highlight that the lack of trust in certifying bodies significantly reduces adoption. In Indonesia, inconsistent label designs and low eco-label literacy exacerbate this barrier.

H5: Image barrier has a positive and significant effect on the intention to resist eco-label product purchase.

METHOD

This quantitative cross-sectional survey examined the effect of usage, value, risk, tradition, and image barriers on consumers' intention to resist eco-label product purchase. The study targeted Gen Z and Millennial consumers (18–39 years) in Jabodetabek, Bandung, Semarang, Yogyakarta, and Surabaya, selected via non-probability purposive sampling, with a G*Power minimum sample requirement of 172. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4.0.

RESULTS AND DISCUSSION

Overview of Research Objects

Eco-label products are goods labeled as environmentally friendly in terms of packaging and materials, supporting safe and sustainable consumption. Their use represents a tangible step toward green consumption, allowing consumers to contribute to environmental conservation. This study focuses on millennial and Gen Z consumers (18–39 years) familiar with eco-label products in major Indonesian metropolitan areas such as Jabodetabek, Bandung, Semarang, Yogyakarta, and Surabaya, where market availability is high.

Descriptive statistics

Data were collected via an online questionnaire from June 29 to July 13, 2025, yielding 335 responses, with 213 valid after data cleaning. Respondents, drawn from Greater Jakarta, Bandung, Semarang, Yogyakarta, and Surabaya, represent potential eco-label product consumers, and the analysis employed PLS-SEM to examine variable relationships.

Respondent Description

The majority of respondents were male (66.2%), with the age range of 30-35 years dominating (39.4%). Most of the respondents are domiciled in Greater Jakarta (45.1%) and have a background in primary education to undergraduate education (88.3%). The majority of respondents work as private employees (77.5%), the lower-middle-income group (48%), and have knowledge of eco-label products, especially in the categories of medicines (27.7%) and beverages (27.2%). Thus, this data provides an important picture of consumers of eco-label products in Indonesia, which has the potential to further increase green consumption.

Result Measurement Model

Based on the data shown in Table 1, the outside loadings of all indicators were above 0.7, indicating strong indicator dependability. All variables in this study demonstrated Cronbach's Alpha values exceeding 0.70, indicating that the indicators for each construct possess strong internal consistency and are therefore reliable for measuring the intended constructs. Furthermore, as shown in Table 1, all variables achieved Composite Reliability values greater than 0.70, confirming that the indicators consistently represent their respective latent constructs.

With these results, it can be concluded that all variables in this study meet the criteria of good reliability, as required by *Cronbach's Alpha* value of > 0.7 and *Composite Reliability* > 0.7. This reliability and validity ensure that the research model used has strong data quality and is feasible to proceed to the next stage of analysis. With good reliability, the research model can produce more accurate, reliable, and relevant analysis results to answer the research questions asked.

All variables showed AVE values above 0.5, ranging from 0.644 to 0.767, indicating good convergent validity, with each construct explaining more than 50% of its indicator variance. The HTMT values for all construct pairs were below 0.90, confirming good discriminant validity.

Additionally, multicollinearity values were below 3, indicating no significant collinearity issues and confirming that each indicator contributed uniquely to its construct.

Table 1. Result Measurment Model

Construction and Indicators	Factor Loading	Cronbachs Alpha	Composite Reliability	AVE	Source
Usage Barrier (UB)		0.753	0.858	0.669	Sadiq et al. (2021)
UB 1: Lack of information makes it difficult for me to recognize eco-label products	0.798				
UB 2 : In my opinion, the choice of ecolabel products available is still small.	0.833				
UB 3 : I don't buy eco-label products because they are hard to find in stores.	0.822				
Value Barrier (VB)		0.73	0.848	0.651	Sadiq et al. (2021)
VB 1 : I don't think ecolabel products have any advantages over conventional products	0.745				
VB 2 : I think eco-label products still contain harmful chemicals	0.846				
VB 3 : I don't think eco-label products are completely environmentally friendly	0.827				
Risk Barrier (RB)		0.849	0.908	0.767	Sadiq et al. (2021); Puspitasari & Alversia (2023)
RB 1 : I am worried that the statement (claim) of eco *label products* is not true	0.853				
RB 2: I'm worried about not getting a truly eco-friendly product when buying *more expensive* eco label products	0.896				
RB 3 : I am worried that the quality of *eco-label products* is not comparable to conventional products	0.879				
Traditional Barrier (TB)		0.728	0.843	0.644	Sadiq et al. (2021); Puspitasari & Alversia (2023)
TB 1 : I think conventional products are better than eco label products	0.83				
TB 2 : I have trouble distinguishing the quality of eco label products from conventional products	0.717				
TB 3 : I am very used to using conventional products so it is very difficult to use eco-label products	0.853				
Image Barrier (IB)		0.827	0.895	0.74	Sadiq et al. (2021); Puspitasari & Alversia (2023)
IB 1 I doubt eco-label products are really eco-friendly	0.843				
IB 2 I have a poor image understanding of eco-label products	0.857				
IB 3 I'm not sure the content in eco-label products is better than conventional products	0.882				
Intension to resist eco-label product purchase (IREPP)		0.845	0.896	0.683	Sadiq et al. (2021)
IREPP 1 : I will not recommend eco-label products to my friends	0.788				
IREPP 2 : I am unlikely to buy eco-label products in the near future	0.874				
IREPP 3 : I will not buy eco-label products for my household needs	0.834				
IREPP 4 : Buying eco-label products is not my top priority	0.807				

Source: SmartPLS.4.0 Data Processing Results

Hypothesis Test

In this study, PLS-SEM hypothesis testing aimed to determine whether the relationships between variables were supported by the data, using the t-test values obtained through the bootstrapping process in SmartPLS 4.0. With a significance level of 0.05 (one-tailed t-table = 1.650), hypotheses were accepted if $p < 0.05$ or $t > 1.650$, and rejected if $p > 0.05$ or $t < 1.650$. The results, presented in Figure 1 and Table 2, allowed researchers to evaluate whether the proposed model aligned with empirical evidence.

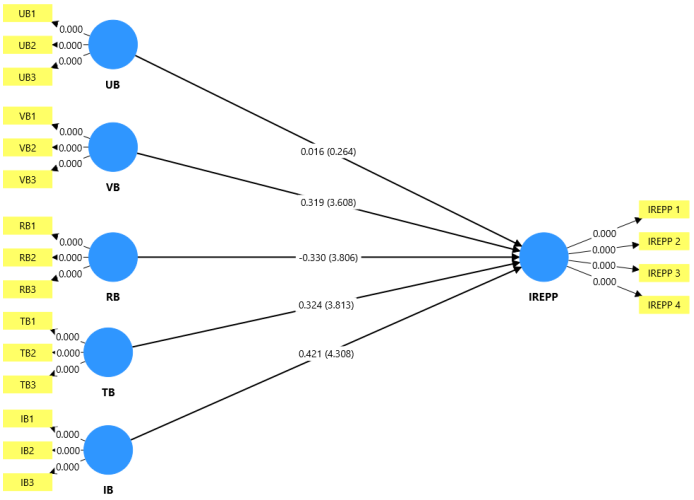

Figure 1. Testing Path Coeficence & P-value
Source : SmartPLS.4.0 Data Processing Results

Table 2. Direct Influence of Independent Variables on Dependents

The Influence of Direct Relationships				
Hipotesis	Coeficin	T. Statistic	P Value	Result
H1 : UB → IREPP	0.088	1.3610	0.087	Rejected
H2 : VB → IREPP	0.276	3.5560	0.000	Accepted
H3 : RB → IREPP	-0.313	3.8600	0.000	Rejected
H4 : TB → IREPP	0.307	4.016	0.000	Accepted
H5: IB → IREPP	0.389	4.459	0.000	Accepted

Source : SmartPLS.4.0 Data Processing Results

Discussion

Effect of Usage barrier on Intention to Resist Eco-label Product Purchase

The analysis showed that the Usage Barrier (UB) had a positive path coefficient of 0.088, with a t-statistic of 1.361 and a p-value of 0.087, indicating no significant effect on the Intention to Resist Eco-label Product Purchase (IREPP) and leading to the rejection of H1. Despite perceptions of limited information, product selection, and availability (UB1–UB3), these functional barriers were not strong enough to drive resistance, as most respondents—urban, tech-exposed private sector workers were already familiar with easy-to-use eco-label products like medicines (27.7%) and beverages (27.2%). Consistent with Innovation Resistance Theory (Ram & Sheth, 1989) and Sadiq et al. (2021), the weak influence suggests that usage barriers can be reduced through better product availability, clear information, and improved distribution, allowing companies to prioritize addressing stronger resistance factors such as value or risk barriers.

The Effect of Value Barrier on Intention to Resist Eco-label Product Purchase

The results showed that the Value Barrier (VB) had a positive and significant effect on the Intention to Resist Eco-label Product Purchase, with a path coefficient of 0.276, t-statistic of 3.556, and p-value of 0.000, so H2 was accepted. This indicates that perceptions of limited product superiority, incomplete environmental friendliness, and similarity to conventional products significantly contribute to resistance, as consumers feel eco-label products do not provide sufficient added benefits to justify higher prices (Ram & Sheth, 1989; Sadiq et al., 2021). Most respondents in this study were of productive age (18–39 years), 48% from the lower-middle-income group, 46.5% with basic education, and 77.5% private sector workers—characteristics that reflect rational purchasing considerations based on price, quantity, and effectiveness. These findings suggest that for this consumer segment, companies must clearly demonstrate tangible advantages in performance, quality, and efficiency to strengthen perceived value and reduce resistance. These findings suggest that for this consumer segment, companies must clearly demonstrate tangible advantages in performance, quality, and efficiency to strengthen perceived value and reduce resistance. This result is aligned with Ram & Sheth (1989), Sadiq et al. (2021), and Sajid & Zakkariya (2023), who emphasize that strengthening perceived value is crucial for overcoming consumer resistance in price-sensitive markets.

The Effect of Risk Barrier on Intention to Resist Eco-label Product Purchase

The results indicated that the Risk Barrier (RB) had a negative and significant effect on the Intention to Resist Eco-label Product Purchase, with a path coefficient of –0.313, t-statistic of 3.860, and p-value of 0.000, leading to the rejection of H3. This suggests that higher perceived risk is associated with lower resistance, as consumers who recognize potential risks tend to seek more information, evaluate products more thoroughly, and remain open to adoption after understanding the benefits. In this study, key RB indicators included doubts about eco-friendly claims, perceptions of disproportionate price-to-benefit ratios, and concerns over quality compared to conventional products.

Rather than deterring purchases, these concerns encouraged deeper engagement reflecting the *privacy paradox* described by Talwar et al. (2020), where individuals acknowledge risks yet still proceed with usage after rational evaluation. The respondent profile—predominantly male (66.2%), aged 30–35, 77.5% working in the private sector indicates a demographic inclined toward calculated risk-taking, prioritizing efficiency, functionality, and tangible results. The most familiar eco-label products were medicines (27.7%) and beverages (27.2%), both low-impact categories that are relatively easy to try, often driven by curiosity or a desire to validate claims.

These findings imply that clear, credible communication through validated certifications, transparent quality testing, and user testimonials can transform perceived risks into opportunities for trust-building, ultimately reducing consumer resistance to eco-labeled products.

These findings are consistent with Talwar et al. (2020) and Sadiq et al. (2021), which highlight that perceived risk, when paired with credible information, can transition from a barrier into a motivator for trial.

The Effect of Tradition barrier on Intention to Resist Eco-label Product Purchase

The results showed that the Traditional Barrier (TB) had a positive and significant effect on the Intention to Resist Eco-label Product Purchase, with a path coefficient of 0.307, t-statistic of 4.016, and p-value of 0.000, supporting H4. This indicates that stronger attachment to conventional products increases resistance to eco-labeled products, as reflected in three key indicators: belief that conventional products are superior (TB1), difficulty distinguishing quality (TB2), and entrenched

habits of using conventional products (TB3). These findings align with Ram and Sheth's (1989) Innovation Resistance Theory and studies by Sadiq et al. (2021) and Sang et al. (2022), which highlight consumer comfort with older products and limited perceived differentiation as core barriers. The respondent profile—predominantly male (66.2%), aged 30–35 years (39.4%), 77.5% working in the private sector, and 46.5% with primary to secondary education suggests a demographic that values stability, pragmatism, and convenience, consistent with observations by Solomon et al. (2010) and Peter & Olson (2010). For this segment, effective strategies should avoid imposing drastic lifestyle changes and instead emphasize continuity between eco-labeled and conventional products, highlighting ease of transition, tangible benefits, and consistent quality. Addressing the Traditional Barrier through habit-based approaches, targeted education, and persuasive communication can gradually reduce resistance and faster the adoption of eco-friendly products. These findings are in line with Ram & Sheth (1989), Sadiq et al. (2021), and Sang et al. (2022), confirming that entrenched habits and perceived similarity to conventional products remain significant adoption barriers.

The effect of Image barrier on the Intention to Resist Eco label Product Purchase

The results showed that the Image Barrier (IB) had a positive and significant effect on the Intention to Resist Eco-label Product Purchase, with a path coefficient of 0.389, t-statistic of 4.459, and p-value of 0.000, thus supporting H5. This means that stronger negative perceptions—such as doubts about eco-label accuracy (IB1), negative product image (IB2), and distrust of product content (IB3) increase consumer resistance. These findings align with the respondent profile, where most were male (66.2%), aged 30–35 years (39.4%), worked in the private sector (77.5%), and had a primary education background (46.5%), indicating a tendency to form judgments based on information clarity and credibility.

The implication is that building a strong, credible, and consistent image for eco-label products is essential. Companies should back eco-friendly claims with official certifications, transparent information, and campaigns addressing both rational and emotional consumer needs. By focusing on trust-building, transparency, and demonstrating added value beyond environmental benefits, the impact of image barriers can be reduced, encouraging greater acceptance of sustainable products. This result is consistent with Sadiq et al. (2021) and Sang et al. (2022), which emphasize that brand credibility and label trust are critical to reducing consumer resistance in sustainable product adoption.

THEORITICAL IMPLICATION

Several avenues for future research emerge from the findings of this study. First, given the dominance of the image barrier and the prominence of IB3 (*doubts about the content of eco-labeled products*), future research should investigate the role of related constructs such as consumer trust, green skepticism, and greenwashing awareness within the framework of the Innovation Resistance Theory (IRT). Such inclusion would broaden theoretical understanding and provide a more nuanced view of resistance dynamics in the sustainable consumption domain.

Second, considering the strong influence of the traditional barrier, future studies could adopt qualitative methodologies such as focus group discussions to explore emotional, nostalgic, and apprehensive dimensions of consumer attitudes toward eco-labeled products. Such approaches would yield richer, context-specific insights that are often inaccessible through quantitative methods alone.

Third, the pronounced effect of the value barrier, particularly indicators VB2 (*hazardous materials*) and VB3 (*not entirely environmentally friendly*), suggests persistent negative perceptions regarding product composition. Longitudinal research designs are recommended to assess whether prolonged consumer education campaigns can shift these entrenched perceptions over time.

The Last, the sample in this study was predominantly composed of respondents with elementary, junior high, and senior high school educational backgrounds (46.5%), followed by bachelor's degree holders (41.8%). Future studies could target consumers with higher educational attainment to examine more segmented cognitive and behavioral patterns. Such an approach would enhance the applicability of findings for precision-targeted marketing strategies, particularly in the context of developing economies where education levels are heterogeneous.

MANAGERIAL IMPLICATION

The findings indicate that the image barrier constitutes the most influential determinant of consumer resistance toward eco-labeled products, primarily driven by skepticism regarding product content and the credibility of environmental claims. Firms should strengthen trust through internationally recognized certifications, transparent disclosure of production processes, and evidence-based communication strategies tailored to both rational and emotional appeals. Addressing the traditional barrier requires positioning eco-labeled products as seamless substitutes for conventional alternatives, facilitated through bundling, trial programs, and loyalty incentives to minimize lifestyle disruption. The value barrier underscores the necessity of demonstrating tangible functional and environmental benefits, supported by credible third-party endorsements and authentic consumer testimonials. Notably, the paradoxical negative association of the risk barrier with resistance highlights an opportunity to stimulate consumer engagement via transparent product information, verifiable quality testing, and targeted communication to risk-tolerant segments. While the usage barrier was statistically insignificant, ensuring product accessibility, ease of purchase, and clarity of information across online and offline channels remains essential to support sustainable consumption adoption.

CONCLUSION

Based on the data analysis and discussion, the study concluded that the usage barrier did not significantly affect consumers' intention to resist purchasing *eco-label* products, indicating that functional challenges like limited access or information were less influential. In contrast, the value barrier, reflecting distrust in the environmental benefits and safety of the products, and the traditional barrier, where consumers preferred conventional products due to habit and perceived equivalence in quality, both had significant positive effects on resistance. Interestingly, the risk barrier showed a negative significant effect, suggesting that higher perceived risk led consumers to scrutinize products more carefully, thus reducing resistance. The image barrier was found to be the strongest factor, where negative perceptions about label credibility and product authenticity significantly increased resistance. For future research, it is recommended to explore strategies that effectively address image-related concerns and investigate how targeted consumer education and transparent labeling might mitigate value and traditional barriers, thereby enhancing the adoption of *eco-label* products.

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