Consumer Responses to Sustainable Product Labeling (Eco-label) in Purchasing Decisions

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Article Info	ABSTRACT
	This study examines consumer responses to sustainable product labels (eco-labels) and their influence on purchasing decisions in Indonesia. Using a quantitative research design, data were collected from 150 respondents through a structured questionnaire with a 1–5 Likert scale. The data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS 3) to evaluate both the measurement and structural models. Results indicate that eco-label perception has a significant positive effect on consumer trust and purchasing decisions. Furthermore, consumer trust plays a mediating role, strengthening the relationship between eco-label perception and purchase behavior. Environmental awareness also emerged as a strong determinant of purchasing decisions, showing that consumers who are more environmentally conscious are more responsive to eco-labels. The model demonstrated substantial explanatory power (R^2 = 0.62) for purchasing decisions, confirming the importance of eco-labels, trust, and awareness in shaping sustainable consumer behavior in Indonesia. These findings provide practical implications for businesses and policymakers in promoting eco-labeled products and fostering sustainable consumption. *This is an open access article under the <u>CC BY-SA</u> license.*

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1. INTRODUCTION

Sustainability has become a central concern in global consumption patterns, particularly as environmental degradation and climate change increasingly affect human life. Consumers are progressively seeking products that align with environmentally friendly practices, leading to the emergence and growth of eco-labels as indicators of sustainable production and consumption. Eco-labels are designed to provide information about a product's environmental impact, allowing consumers to make more informed purchasing decisions while encouraging companies to adopt sustainable practices. These labels serve as significant tools in promoting sustainable consumption patterns, though their effectiveness depends on several factors such as the type of label, consumer awareness, and regulatory frameworks. For instance, Type I eco-labels certified by reputable third parties are generally considered reliable indicators of sustainability and have a positive correlation with improved product sustainability,

whereas Type II self-declared labels may lack scientific merit and have shown a slight negative correlation, underscoring the need for stronger standards and regulations, while Type III labels provide public access to life cycle assessment (LCA) data, ensuring transparency and detailed environmental information [1]. The role of consumer awareness is also pivotal, as educated consumers are more inclined to scrutinize eco-labels and make informed choices that promote sustainability [2]. To maximize effectiveness, eco-labels should present comprehensive environmental information in accessible formats, such as color-coded components or charts, enabling consumers to make environmentally motivated purchasing decisions [3]. Furthermore, regulatory and market influences play an essential role, with government policies and green public procurement (GPP) leveraging purchasing power to encourage broader adoption of eco-labels and drive sustainable market transformations [4]. However, challenges such as greenwashing and the absence of standardized criteria continue to undermine credibility, highlighting the need for regulatory oversight and industry collaboration to improve transparency and trust in eco-labeling [5].

In Indonesia, where rapid economic development has been accompanied by significant environmental challenges, eco-labels are gaining prominence as tools for promoting responsible consumption, yet their influence on consumer behavior remains complex due to diverse socio-economic backgrounds, cultural values, and varying levels of environmental awareness. Eco-labels can positively shape consumer behavior by enhancing perceived consumer effectiveness and environmental concern, thereby encouraging green purchases [6], while in the bioplastics industry they communicate environmental benefits but are not the sole determinant of adoption since factors like price, pro-environmental attitudes, and waste management infrastructure also play significant roles [7]. Environmental awareness and green product literacy further emerge as critical predictors of sustainable consumption, with more knowledgeable consumers being more likely to purchase eco-friendly products [8], and efforts to boost awareness through education and media proving essential to increase eco-label effectiveness [9]. Nonetheless, the Indonesian government's ecolabeling policy, Ekolabel Indonesia, faces persistent challenges including limited scope, lack of transparency, and high certification costs, all of which can diminish its impact; thus, ensuring equitable access for smaller businesses and improving transparency in certification processes are crucial steps to enhance the credibility and effectiveness of eco-labels [10].

Previous studies in developed countries have shown that eco-labels can positively influence consumer trust, perceived product quality, and purchase intentions, and similar dynamics are emerging in Indonesia where environmental awareness significantly correlates with purchase intentions for green products, as consumers are more inclined to buy eco-friendly items when they understand environmental issues and trust corporate sustainability claims [11]. Trust in eco-labels is therefore crucial, as consumers need to believe in their authenticity for these labels to impact purchasing decisions, with such trust built on knowledge of production standards and the credibility of the certifying bodies [12], [13]. Despite general price sensitivity in developing markets, Indonesian consumers demonstrate a willingness to pay a premium for eco-labeled products when they are perceived as genuinely sustainable and environmentally beneficial [11], [14], with eco-labels enhancing perceived product quality and thereby justifying higher prices [14]. Knowledge about eco-labels and their standards also plays a pivotal role, as consumers with greater understanding are more likely to trust and act on them, leading to stronger pro-environmental behaviors [12], [13]. However, in developing markets such as Indonesia, awareness and responsiveness remain varied due to factors like limited knowledge, skepticism about credibility, and the trade-off between price and sustainability, making Indonesia a unique and relevant

context for studying how eco-labels shape purchasing decisions.

This study applies a quantitative approach to investigate consumer responses to eco-labels in Indonesia, focusing on how they influence purchasing decisions. By analyzing these relationships, the study aims to contribute to both academic literature and practical strategies for promoting sustainable products in emerging markets. The findings are expected to provide insights into the role of eco-labels in influencing consumer decision-making in Indonesia, highlight the importance of consumer trust and environmental awareness, and offer recommendations for businesses and policymakers to effectively leverage eco-labels as part of sustainable development initiatives.

2. LITERATURE REVIEW

2.1 Sustainable Consumption and Eco-Labels

Eco-labels are crucial in promoting sustainable consumption by providing transparent information on product environmental performance, helping reduce uncertainty in decision-making and aligning purchases with pro-environmental values. Their effectiveness depends on factors such as certifying body credibility, clarity of information, and consumer trust and knowledge, which are especially important in emerging markets like Indonesia where environmental awareness is still growing. Government-certified and third-party labels are generally viewed as more reliable than self-declared claims that may lack scientific merit [1], [5], while trust in eco-labels is positively linked to pro-environmental behavior [12]. Clear and comprehensive information, preferably in accessible formats such as charts, enhances effectiveness [3], but challenges like greenwashing and lack of standardized criteria demand regulatory oversight and collaboration to strengthen transparency [5]. Consumer knowledge also plays a key role, as better understanding of eco-labels supports bridging the attitude-behavior gap [12], and eco-labels can serve as a green business strategy by leveraging rising

demand for sustainable products to encourage responsible practices [15].

2.2 Consumer Perception of Eco-Labels

Consumer perception plays a pivotal role in the effectiveness of eco-labels, as it directly shapes purchasing decisions and determines the success of green marketing strategies. In Indonesia, where eco-label exposure remains limited, consumer education and awareness campaigns are essential for fostering positive perceptions. Eco-labels can significantly influence consumer behavior by enhancing perceived product attributes and consumer effectiveness, which subsequently strengthens environmental concerns and green purchases [6]. Label design and message clarity are key, as eco-labels act as trusted guides for environmentally conscious consumers by providing transparent sustainability information [16], while clear labeling and strong brand reputation further increase consumer trust and willingness to buy eco-friendly products [17]. The perceived authenticity of eco-labels is also critical, with higher awareness and understanding proven to alter purchasing behavior positively [18], for instance, recognition of certifications such as USDA Organic and Fair Trade has been shown to enhance consumer preferences and purchasing intentions in the coffee sector [19]. To strengthen these dynamics, education programs that increase eco-label knowledge can improve perceptions and attitudes toward sustainability [18], making targeted campaigns in Indonesia vital to bridge the existing gap in eco-label exposure compared to developed countries [6].

2.3 Eco-Labels and Consumer Trust

Trust plays a crucial role in mediating the relationship between eco-labels and consumer purchasing decisions, as credible labels are often associated with higher quality, safety, and environmental responsibility, thereby positively influencing purchase intentions. However, skepticism driven by greenwashing or false claims can undermine this trust and reduce eco-label effectiveness, particularly in Southeast Asia where consistent standards, third-party audits, and certification transparency are vital.

Greenwashing practices, such as misleading environmental claims, increase consumer skepticism and negatively affect green purchase intentions, as shown in a Vietnamese study where green skepticism mediated the negative link between greenwash and purchase intentions [20], while perceived greenwashing further reduces trust and weakens attitudes and purchase intentions toward eco-friendly products, emphasizing the need for transparency in communication [21]. Trust also acts as a mediator in green advertising, with evidence from Italy showing it fully mediated the relationship between skepticism and purchase intention [22], while another study confirmed that system trust and personal trust mediated the link between receptivity to green advertising and purchase intention, highlighting the role of trust in strengthening eco-label effectiveness [23]. In Indonesia, eco-labels have been found to positively influence perceived consumer effectiveness and environmental concerns, which subsequently drive green purchase intentions, reinforcing the importance of reliable standards and transparent certification in fostering trust [6].

2.4 Eco-Labels and Purchasing Decisions

Eco-labels play a significant role in influencing purchasing decisions by signaling environmental benefits that enhance purchase intentions among environmentally conscious consumers, yet in developing countries affordability and price sensitivity often moderate their impact on actual behavior. Eco-labels can build trust by reducing information asymmetry, which is particularly important in organic food purchases [24], and they help consumers make quicker decisions by distinguishing eco-friendly products from conventional alternatives [25]. In China, for instance, awareness of carbon labeling has been shown to increase willingness to pay a premium, as consumers associate such labels with superior product quality [26]. However, price sensitivity remains a major barrier in developing regions, where consumers frequently prioritize affordability over environmental benefits [27], and there exists a perception that the responsibility for providing eco-friendly products lies with producers and governments, rather than through higher consumer costs [28]. The effectiveness of eco-labels can nonetheless be strengthened through effective advertising campaigns that enhance perceived product value [26], while environmental awareness and high-quality information are also critical in fostering green purchase intentions, consistent with the goals of Sustainable Development Goal 12 [27].

2.5 The Role of Environmental Awareness

Environmental awareness significantly influences consumer responses to eco-labels in Indonesia, with varying levels of environmental knowledge across demographic groups shaping the extent to which eco-labels affect behavior. Consumers with higher awareness are more likely to recognize and value eco-labels, integrating them into purchasing decisions, as shown by findings that heightened environmental concern increases the likelihood of buying eco-labeled products [8], [9]. In Indonesia, environmental awareness is a strong predictor of green purchase behavior [8], and demographic variations further illustrate this, with Generation Z displaying higher environmental knowledge and a greater inclination to purchase eco-friendly clothing due to familiarity with eco-labels [29], [30]. Younger consumers, in particular, tend to integrate eco-labels into their purchasing habits as a reflection of their environmental concern [30]. Eco-labels themselves enhance perceptions of product attributes and perceived consumer effectiveness, thereby reinforcing environmental concerns and supporting green purchase behavior [6], while their presence also elevates perceived product value, making eco-friendly options more attractive to environmentally conscious consumers [6].

2.6 Empirical Studies and Gaps in Literature

A number of international studies have explored the relationship between eco-labels and consumer behavior, consistently highlighting positive correlations between label recognition, trust, and purchase intentions. However, empirical research in Indonesia remains limited. The cultural

context, diverse consumer preferences, and different levels of environmental consciousness create a need for context-specific studies. This research addresses the gap by employing a quantitative approach to measure consumer responses to eco-labels in Indonesia using SEM-PLS.

3. METHODS

3.1 Research Design

This study adopts a quantitative research design to investigate consumer responses to sustainable product labels (eco-labels) and their influence on purchasing decisions in Indonesia. The approach was chosen because it allows for statistical testing of relationships between variables, providing objective and measurable evidence. Structural Equation Modeling–Partial Least Squares (SEM-PLS 3) was employed to analyze the data, as it is suitable for predictive modeling and testing complex relationships between latent constructs with relatively small sample sizes.

3.2 Population and Sample

The population of this study consists of Indonesian consumers who are aware of or have experience purchasing products with eco-labels. The sample size of 150 respondents was determined using convenience sampling, which is appropriate for exploratory studies where access to participants may be limited. Respondents were selected from various demographic backgrounds to ensure diversity in age, gender, education, and income level, thereby reflecting a broader consumer profile in Indonesia.

3.3 Data Collection

Primary data were collected using an online questionnaire distributed via digital platforms such as email and social media, consisting of closed-ended questions measured on a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The survey items were designed to measure key constructs including eco-label perception (clarity, credibility, and recognition of eco-labels), consumer trust (authenticity and reliability of eco-labels), environmental awareness (concern and

knowledge about environmental issues), and purchasing decisions (intention and actual behavior related to eco-labeled products). All constructs were adapted from validated instruments in previous studies and adjusted to the Indonesian context.

3.4 Measurement of Variables

Each variable in the study was measured using multiple indicators, where eco-label perception was assessed through indicators of label visibility, comprehensibility, and perceived authenticity; consumer trust was measured by belief in eco-label credibility, reliability of certification, and reduced skepticism; environmental awareness was evaluated based on consumer concern for environmental issues, recognition of environmental impacts, and willingness to support eco-friendly products; while purchasing decisions were measured through intention to buy eco-labeled products, preference for sustainable options, and actual purchasing behavior.

3.5 Data Analysis

Data analysis was conducted using SEM-PLS version 3, which enabled both measurement model evaluation (outer model) and structural model evaluation (inner model) through several stages, beginning with descriptive statistics to profile respondents and summarize responses. The measurement model evaluation tested indicator reliability, construct reliability (Cronbach's Alpha and Composite Reliability), as well as validity through convergent and discriminant validity. The structural model evaluation assessed path coefficients, coefficient of determination (R^2), predictive relevance (Q^2), and hypothesis testing using t-statistics and p-values. Finally, bootstrapping with 5,000 subsamples was performed to determine the significance of relationships between variables at a 95% confidence level ($p < 0.05$).

4. RESULTS AND DISCUSSION

4.1 Descriptive Analysis

The descriptive analysis provides an overview of the respondents' demographic

characteristics and general responses to eco-labels. A total of 150 respondents participated in the survey, representing a diverse consumer group in Indonesia. In terms of gender, 84 respondents (56%) were female and 66 respondents (44%) were male, suggesting a relatively balanced sample with a slight majority of female participants. The largest age group was 21–30 years (62%), followed by 31–40 years (24%), while 14% were above 40 years, indicating that younger consumers dominate the sample—consistent with digital survey distribution and higher environmental awareness among younger demographics. Regarding education, most respondents held a bachelor's degree (68%), 20% had a high school diploma, and 12% held postgraduate qualifications, reflecting a generally well-educated consumer base. In terms of monthly income, 41% reported income between IDR 3–6 million, 37% above IDR 6 million, and 22% below IDR 3 million, suggesting representation from both middle-income and higher-income groups. On product exposure, respondents reported that eco-labels were most frequently observed on food and beverage products (35%), followed by household cleaning goods (27%), personal care products (22%), and other categories such as fashion and electronics (16%), indicating that eco-label penetration is highest in daily-use consumer products, particularly food and household items.

Descriptive statistics of the main variables also highlight positive trends. Eco-label perception scored a mean of 3.92 on a 1–5 scale, suggesting generally favorable views of eco-label clarity and credibility. Consumer trust scored 3.85, indicating moderate to strong confidence in eco-label authenticity. Environmental awareness recorded the highest mean score of 4.12, reflecting strong concern and knowledge of environmental issues among respondents. Purchasing decisions scored 3.78, suggesting that many consumers consider eco-labels in their buying process, though practical factors such as price and availability still influence their final choices. Overall, these findings show that Indonesian consumers—particularly younger and educated groups—demonstrate growing awareness of eco-labels, relatively high environmental concern, and willingness to integrate eco-label information into their purchasing decisions, but affordability and accessibility remain important moderating factors.

4.2 Measurement Model Evaluation (Outer Model)

The outer model evaluation was conducted to test the reliability and validity of the measurement instruments used for the constructs: eco-label perception, consumer trust, environmental awareness, and purchasing decisions. Three main criteria were assessed: indicator reliability, construct reliability, and validity (convergent and discriminant).

4.2.1 Indicator Reliability

Indicator reliability is established when factor loadings exceed the threshold value of 0.70 (Hair et al., 2021), and the results of this study showed that all items met this criterion, with eco-label perception indicators loading between 0.74 and 0.86, consumer trust between 0.72 and 0.88, environmental awareness between 0.75 and 0.89, and purchasing decisions between 0.73 and 0.87. Since all loadings were above 0.70, these findings confirm that the observed indicators adequately measured the latent constructs.

4.2.2 Construct Reliability

Construct reliability was assessed using Cronbach's Alpha (α) and Composite Reliability (CR), with the recommended threshold for both measures being ≥ 0.70. The results showed that eco-label perception had $\alpha = 0.824$ and CR = 0.884, consumer trust $\alpha = 0.842$ and CR = 0.892, environmental awareness $\alpha = 0.864$ and CR = 0.917, and purchasing decisions $\alpha = 0.831$ and CR = 0.883. All values exceeded the threshold, demonstrating satisfactory internal consistency across all constructs.

4.2.3 Convergent Validity

Convergent validity was evaluated using the Average Variance Extracted (AVE), where values greater than 0.50 indicate adequate validity. Results showed that AVE values ranged from 0.56 to 0.74 for all constructs, confirming convergent validity.

This indicates that the items within each construct share a high proportion of variance.

4.2.4 Discriminant Validity

Discriminant validity ensures that constructs are distinct from one another, and in this study it was confirmed using two criteria: first, the Fornell–Larcker Criterion showed that the square root of AVE for each construct was greater than its correlations with other constructs, and second, the Heterotrait–Monotrait Ratio (HTMT) values were all below the threshold of 0.85, thereby confirming that discriminant validity was established.

4.3 Structural Model Evaluation (Inner Model)

The structural model evaluation (inner model) was performed to examine the hypothesized relationships among eco-label perception, consumer trust, environmental awareness, and purchasing decisions. The evaluation included testing for collinearity, coefficient of determination (R^2), path coefficients, predictive relevance (Q^2), and hypothesis testing through bootstrapping.

4.3.1 Collinearity Assessment

Variance Inflation Factor (VIF) values were used to test for collinearity among predictor constructs. All VIF values were below 5.0, indicating that multicollinearity was not an issue in this model and predictor constructs could be used reliably.

4.3.2 Coefficient of Determination (R^2)

The R^2 value reflects the explanatory power of the model, and the results showed that consumer trust (R^2 = 0.42) indicated 42% of its variance was explained by eco-label perception, while purchasing decisions (R^2 = 0.62) indicated 62% of its variance was explained by eco-label perception, consumer trust, and environmental awareness. These values demonstrate moderate to substantial explanatory power (Hair et al., 2021), thereby supporting the robustness of the model.

4.3.3 Predictive Relevance (Q^2)

The Stone–Geisser Q^2 test, evaluated through the blindfolding procedure, was used to assess predictive relevance, where Q^2 values greater than zero indicate predictive accuracy. The results showed consumer trust (Q^2 = 0.29) and purchasing decisions (Q^2 = 0.47), confirming that the model has good predictive relevance for both endogenous constructs.

4.3.4 Path Coefficients and Hypothesis Testing

Bootstrapping with 5,000 subsamples was conducted to test the significance of path coefficients.

Hypothesis	Path Relationship	Coefficient (β)	t-Statistic	p-Value	Result
H1	Eco-label perception → Consumer trust	0.415	4.211	0.000	Supported
H2	Eco-label perception → Purchasing decisions	0.286	2.961	0.003	Supported
H3	Consumer trust → Purchasing decisions	0.362	3.845	0.000	Supported
H4	Environmental awareness → Purchasing decisions	0.336	3.453	0.001	Supported

The hypothesis testing results provide strong evidence of the significant role eco-label perception, consumer trust, and environmental awareness play in shaping purchasing decisions, with H1 (eco-label perception → consumer trust) supported (β = 0.415, t = 4.211, p = 0.000), indicating that consumers who perceive eco-labels as clear, credible, and authentic are more likely to develop trust in these labels, underscoring the importance of label visibility and certification credibility in enhancing consumer confidence. H2 (eco-label perception → purchasing decisions) was also supported (β = 0.286, t = 2.961, p = 0.003), suggesting that eco-label perception directly influences consumer choices, although the effect is moderate, highlighting that while eco-labels matter,

other factors such as price and accessibility may also shape final decisions. Furthermore, H3 (consumer trust → purchasing decisions) showed a significant positive relationship (β = 0.362, t = 3.845, p = 0.000), reinforcing that trust is a central mediator between eco-label perception and consumer behavior, as consumers who trust eco-labels are more inclined to integrate them into their purchasing actions. Finally, H4 (environmental awareness → purchasing decisions) was supported (β = 0.336, t = 3.453, p = 0.001), confirming that consumers with higher environmental awareness are more likely to make eco-friendly choices.

4.3.5 Mediation Effect

The analysis further confirmed that consumer trust partially mediates the relationship between eco-label perception and purchasing decisions. This means that eco-label perception influences purchasing decisions both directly and indirectly through consumer trust.

4.4 Discussion

The results of this study provide important insights into how Indonesian consumers respond to eco-labels and how these labels influence purchasing decisions. The findings confirm that eco-label perception, consumer trust, and environmental awareness play significant roles in shaping consumer behavior toward sustainable products.

First, the study highlights that eco-label perception positively influences consumer trust and purchasing decisions, suggesting that when eco-labels are clear, credible, and easily recognized, consumers are more likely to trust the product and integrate eco-label information into their purchase considerations. Eco-labels serve as an important tool for environmental protection by providing information about a product's ecological impact, thereby fostering environmentally responsible choices [5], and in Indonesia, eco-labels have been shown to positively influence perceived consumer effectiveness, a key factor in green purchasing decisions [6]. The clarity and authenticity of eco-labels are also critical in preventing greenwashing and ensuring consumer trust in environmental claims [5], yet challenges remain due to the lack of standardized criteria and the prevalence of self-declared eco-labels (Type II), which may lack scientific merit [1]. To strengthen credibility, promoting third-party certified eco-labels (Type I) and ensuring transparency in the labeling process are necessary [1], alongside government policies and industry collaboration to prevent false sustainability claims [5]. Eco-labels significantly impact green purchase intentions and consumer behavior, with eco-branding further shaping these intentions [31], though in some cases unverified sustainability tags have shown even greater influence on willingness to pay compared to certified labels, underscoring the role of perceived familiarity and trust [32]. In Indonesia, where eco-labels are still relatively new, their ability to convey reliability and environmental value remains particularly important for consumer decision-making.

Second, the role of consumer trust as a mediator underscores the importance of credibility in the effectiveness of eco-labels, as the results showed that eco-labels influence purchasing decisions not only directly but also indirectly through trust. This finding is consistent with research on green hotels in Indonesia, which found that while green attributes alone do not significantly affect willingness to pay premium prices, trust enhances consumer attitudes and intentions to stay at such hotels [33]. Similarly, in the context of organic products, consumer trust in Indonesia remains suboptimal, with reliability, dependability, and environmental protection identified as crucial factors in building confidence and increasing organic product consumption [34]. Eco-labels have also been shown to strengthen perceived consumer effectiveness and product attributes, thereby influencing environmental concerns and green purchasing behavior, but only if consumers trust and perceive them as credible [6]. Conversely, issues of greenwashing, such as the case involving Danone-Aqua in Indonesia, highlight how consumer trust can be undermined, though sustaining perceived green value and reducing perceived risks can help preserve

confidence [35]. Thus, trust reduces skepticism toward greenwashing and strengthens the perceived value of eco-labels, making it the foundation upon which eco-label effectiveness depends in Indonesia, where awareness of sustainability is growing but remains uneven, and without trust in certification bodies and regulatory institutions, eco-labels may not achieve their intended impact.

Third, environmental awareness emerged as a strong predictor of purchasing decisions, showing that environmentally conscious consumers are more likely to respond positively to eco-labels, as also evidenced by studies finding that such consumers actively seek and use eco-labels in their decision-making. In Indonesia, rising environmental awareness—particularly among younger generations—has begun to shift market behavior, with eco-labels increasingly serving as cues for sustainable consumption. Environmental awareness not only mediates consumer preferences for eco-friendly products but also enhances the effectiveness of sustainable marketing strategies in fostering eco-friendly behaviors [36]. Generation Z stands out for its strong inclination toward green purchase intentions, driven by both environmental concern and the perceived value of eco-labels [30], with eco-labels providing essential information that enables informed decisions aligned with their values [29], [30]. Knowledge of eco-labels and environmental products further strengthens environmentally friendly attitudes, which then translate into stronger purchasing intentions [29]. Moreover, sustainable marketing strategies that align with environmental values have proven effective in attracting consumers, especially Generation Z, who prioritize responsible choices [37], making the integration of sustainability principles into marketing practices essential for businesses seeking to align with eco-conscious trends and promote sustainable consumption [36].

From a practical perspective, the findings suggest several implications. For businesses, eco-labels should not be treated merely as compliance symbols but as strategic tools for building brand trust and consumer loyalty. Companies need to ensure that eco-labels are certified by credible institutions, communicated effectively, and integrated into broader sustainability initiatives. For policymakers, the results highlight the need for stronger regulatory frameworks and consumer education campaigns. Ensuring standardization, preventing misuse of eco-labels, and enhancing public awareness can strengthen consumer confidence and encourage sustainable purchasing behaviors.

Finally, this study contributes to academic literature by providing empirical evidence from a developing country context, where consumer responses to eco-labels may differ from those in developed markets. While international studies have shown strong positive responses to eco-labels, the Indonesian case emphasizes the moderating roles of trust and awareness, showing that eco-labels are effective only when consumers perceive them as credible and when they have sufficient knowledge of environmental issues.

5. CONCLUSION

This study explored the impact of eco-labels on consumer purchasing decisions in Indonesia, focusing on the roles of consumer trust and environmental awareness. The results demonstrated that eco-label perception significantly influences both consumer trust and purchase behavior, confirming the importance of label clarity and credibility. Consumer trust was also found to mediate the relationship between eco-label perception and purchasing decisions, underscoring the necessity of credibility in ensuring eco-label effectiveness. Furthermore, environmental awareness emerged as a critical factor, reinforcing the idea that informed and environmentally conscious consumers are more likely to purchase eco-labeled products.

From a theoretical perspective, the study contributes to the literature on sustainable consumption by providing empirical evidence from an emerging market context, where cultural and economic dynamics may differ from those in developed

countries. Practically, the findings highlight those businesses should view eco-labels not merely as tools for regulatory compliance but as strategic instruments for building trust and loyalty among environmentally conscious consumers. For policymakers, the results suggest the need to strengthen regulatory frameworks, standardize eco-label practices, and promote public education to prevent misuse while enhancing consumer awareness. In conclusion, eco-labels have strong potential to drive sustainable consumption in Indonesia, but their effectiveness depends on transparency, trust, and growing consumer environmental consciousness, all of which are crucial for shaping a market environment that supports both consumer preferences and long-term sustainability goals.

REFERENCES

[1]   V. J. Ferrero, A. Shankar Raman, B. DuPont, and K. R. Haapala, "Understanding the Sustainability of Eco-Labeled Products When Compared to Conventional Alternatives," in *International Design Engineering Technical Conferences and Computers and Information in Engineering Conference*, American Society of Mechanical Engineers, 2017, p. V004T05A045.

[2]   V. Usha and P. Kumar, "Enhancing Consumer Awareness of Eco-Friendly Products: A Key to Sustainable Consumption," *REST J. Banking, Account. Bus.*, vol. 3, no. 1, pp. 32–35, 2024.

[3]   C. Hay, K. Meyer, G. Rutherford-Carr, J. P. Hill, and J. Hort, "Taking a Consumer-Led Approach to Identify Key Characteristics of an Effective Ecolabelling Scheme," *Sustainability*, vol. 16, no. 14, p. 6260, 2024.

[4]   A. Ullah, H. U. Ghani, and S. H. Gheewala, "Green Public Procurement and Ecolabels Towards Sustainable Consumption and Production," 2023.

[5]   M. Wojnarowska, M. Sołtysik, and A. Prusak, "Impact of eco-labelling on the implementation of sustainable production and consumption," *Environ. Impact Assess. Rev.*, vol. 86, p. 106505, 2021.

[6]   U. Arsyistawa and A. Hartono, "The effect of eco-label and perceived consumer effectiveness toward green purchase.," *Int. J. Res. Bus. Soc. Sci.*, vol. 11, no. 9, 2022.

[7]   M. L. Baskoro, B. Tjahjono, A. Bogush, M. Beltran, D. Syaifullah, and M. Tjahjono, "The Influence of Ecolabel: Insights from the Indonesian Bioplastics Packaging Industry Stakeholders," in *International Conference on Flexible Automation and Intelligent Manufacturing*, Springer, 2023, pp. 971–978.

[8]   A. N. S. Amaliah, M. Jannah, and M. T. Gunawan, "The role of environmental awareness and green product literacy on green purchase behavior in Indonesia," *J. Econ. Entrep. Manag. Bus. Account.*, vol. 1, no. 2, pp. 115–121, 2023.

[9]   N. U. Handayani, H. Suliantoro, and S. D. Ansari, "Faktor penentu kesadaran konsumen dalam pembelian produk kertas bertanda eco-label," *Mix J. Ilm. Manaj.*, vol. 8, no. 3, pp. 477–503, 2018.

[10]   주다윤 and 윤세미, "Can Labeling Policies Facilitate Sustainable Consumption and Production?: A Case Study of a Government-led Ecolabeling Program in Indonesia," 국제개발협력연구, vol. 15, no. 4, pp. 137–157, 2023.

[11]   H. D. E. Sinaga, F. Fenny, E. Nainggolan, and W. Januarty, "The Effect of Environmental Awareness, Sustainable Corporate Image, and Green Product Price on Consumer Purchase Intention in Indonesia," *West Sci. Soc. Humanit. Stud*, vol. 2, no. 05, pp. 899–911, 2024.

[12]   K. M. R. Taufique, A. Vocino, and M. J. Polonsky, "The influence of eco-label knowledge and trust on pro-environmental consumer behaviour in an emerging market," *J. Strateg. Mark.*, vol. 25, no. 7, pp. 511–529, 2017.

[13]   C. Daugbjerg, S. Smed, L. M. Andersen, and Y. Schvartzman, "Improving eco-labelling as an environmental policy instrument: Knowledge, trust and organic consumption," *J. Environ. Policy Plan.*, vol. 16, no. 4, pp. 559–575, 2014.

[14]   A. Kumar and R. Basu, "Do eco-labels trigger green product purchase intention among emerging market consumers?," *J. Indian Bus. Res.*, vol. 15, no. 3, pp. 466–492, 2023.

[15]   K. Pathak, G. Prakash, M. Jain, R. Agarwal, and R. Attri, "Do eco labels matter for green business strategy and sustainable consumption? A mixed method investigation on green products," *Bus. Strateg. Environ.*, vol. 33, no. 5, pp. 4271–4291, 2024.

[16]   K. Jayashree, "The Role of Ecolabeling in Green Marketing: A Consumer Perspective," *Lead. Charg. A Guid. to Manag. Entrep. Technol. Dyn. Bus. Landsc. Ed. 1*, pp. 70–88, 2025.

[17]   M. Bhardwaj, A. Mishra, and K. M. Rivera, "Consumer Perception towards Eco-Friendly Products: A Quantitative Study," *J. Informatics Educ. Res*, vol. 3, no. 2, 2023.

[18]   D. Paul, S. Malik, D. K. Mishra, and A. Teotia, "A Study on effectiveness of ecolabels in the fast-moving consumer goods sector," in *IOP Conference Series: Earth and Environmental Science*, IOP Publishing, 2023, p. 12004.

[19]   M. A. Delmas and R. Clements, "Green products recognition, understanding, and preference: The case of coffee eco-labels," *Understanding, Prefer. Case Coffee Eco-Labels (December 21, 2017)*, 2017.

[20]   T. T. H. Nguyen, Z. Yang, N. Nguyen, L. W. Johnson, and T. K. Cao, "Greenwash and green purchase intention: The mediating role of green skepticism," *Sustainability*, vol. 11, no. 9, p. 2653, 2019.

[21]   A. B. Fernandes *et al.*, "Transformational leadership: the role of the leader in building high performance teams," *Cuad. Educ. y Desarro.*, vol. 16, no. 2, pp. e3335–e3335, 2024.

[22]   S. de Sio, A. Zamagni, G. Casu, and P. Gremigni, "Green trust as a mediator in the relationship between green advertising skepticism, environmental knowledge, and intention to buy green food," *Int. J. Environ. Res. Public Health*, vol. 19, no. 24, p. 16757, 2022.

[23] S. Shahid, Z. Nauman, L. Jawad, and I. Ayyaz, "Relationship between Green Advertising Receptivity and Consumer Intention to Purchase Eco-labeled Product: Role of Trust as a Mediator," *Bus. Manag. Rev.*, vol. 15, no. 2, pp. 112–130, 2024.

[24] N. Dangi, S. K. Gupta, and S. A. Narula, "Consumer buying behaviour and purchase intention of organic food: a conceptual framework," *Manag. Environ. Qual. An Int. J.*, vol. 31, no. 6, pp. 1515–1530, 2020.

[25] M. Tahir, "Consumers Purchase Behavior Toward Eco-Labelling," *Toronto Metropolitan University*.

[26] Y. Zhan, Y. Ren, and J. Xu, "Willingness to pay a premium for eco-label products in China: a mediation model based on quality value," *Sci. Rep.*, vol. 15, no. 1, p. 1783, 2025.

[27] S. Abbas, H. Munir, and Y. Ahmad, "Integrating eco-labeling and green advertising in achieving Sustainable Development Goal 12," *Bus. Strateg. Dev.*, vol. 7, no. 2, p. e378, 2024.

[28] I. F. Oesman, "Consumers' willingness to pay more for eco friendly products (Green products) classification daily needs products," in *INCHES 2020: Proceedings of the 1st international conference on economics engineering and social science, InCEESS 2020, 17–18 July, Bekasi, Indonesia*, 2021, p. 250.

[29] A. Hoei, J. Avelia, C. Yosevina, and A. W. Sumarlin, "Environmental Product and Ecolabelling Knowledge dalam Pembentukan Sikap Ramah Lingkungan," 2022.

[30] U. N. Illahi, D. K. Sari, R. Ambarwati, and M. T. Alimova, "Influencing Generation Z's Green Purchase Intention: Roles of Awareness and Eco-Labels," *J. Ilmu Sos. Mamangan*, vol. 13, no. 1, pp. 13–29, 2024.

[31] V. P. Putri, "Mendorong pilihan berkelanjutan: Eco labeling, eco branding, dan dampaknya terhadap green purchase intentions dan consumer behaviour," *J. Ekon. Bisnis, Manaj. dan Akunt.*, vol. 3, no. 3, pp. 875–888, 2023.

[32] V. Sigurdsson, N. M. Larsen, R. G. Pálsdóttir, M. Folwarczny, R. G. V. Menon, and A. Fagerstrøm, "Increasing the effectiveness of ecological food signaling: Comparing sustainability tags with eco-labels," *J. Bus. Res.*, vol. 139, pp. 1099–1110, 2022.

[33] T. Gunawan, M. Erlina, and F. A. Subari, "The Readiness of consumers to adopt green hotels in Indonesia: does trust matter?," 2023.

[34] D. P. Alamsyah, "Kepercayaan konsumen pada produk organik," *J. Ecodemica J. Ekon. Manaj. dan Bisnis*, vol. 4, no. 2, pp. 146–155, 2016.

[35] K. Kristia, "The Effect of Perceived Greenwash on Green Trust with Green Perceived Risk and Green Perceived Value as Mediating Variables: Study on Danone-Aqua Indonesia," 2023.

[36] H. Khuan, M. Marnoto, W. I. D. A. Tapaningsih, and B. Purwoko, "Sustainable marketing strategies and their influence on consumer preferences for eco-friendly products in indonesia: the mediating role of environmental awareness," *Int. J. Business, Law, Educ.*, vol. 5, no. 1, pp. 1212–1220, 2024.

[37] I. N. SANTI, Z. ZAHARA, W. WAHYUNINGSIH, M. SUTOMO, and A. FADJAR, "GREEN PURCHASE BEHAVIOR GEN Z: MENGUAK PERAN STRATEGIES GREEN MARKETING," in *PROSIDING SEMINAR NASIONAL FORUM MANAJEMEN INDONESIA-E-*, 2024, pp. 777–786.