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ENVIRONMENTAL AWARENESS AND PERCEIVED VALUE AS PREDICTORS OF CONSUMER ADOPTION OF ECO-FRIENDLY CLEANING PRODUCTS: A PROPOSED MARKETING DISSEMINATION STRATEGY

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ABSTRACT

This study analyzed environmental awareness and perceived value as predictors of consumer adoption of eco-friendly cleaning products among household consumers in Liloan, Cebu. A quantitative, cross-sectional survey design was employed, involving 347 purposively selected respondents who purchased household cleaning products. Data were collected using an adapted questionnaire from established measures of environmental awareness, perceived value, and the Theory of Planned Behavior, and were analyzed using descriptive statistics. Respondents reported high environmental awareness and generally favorable perceptions of price, emotional, social, and environmental value, as well as favorable attitudes, subjective norms, perceived behavioral control, purchase intentions, and actual purchasing behavior. Structural model results showed that environmental awareness did not significantly predict attitude toward purchasing. In contrast, price value, emotional value, social value, and environmental value significantly and positively predicted attitude, with environmental value showing the largest coefficient. Attitude, subjective norm, and perceived behavioral control significantly predicted purchase intention, with perceived behavioral control showing the largest coefficient, while purchase intention significantly predicted actual purchasing behavior. Major barriers included uncertainty about the authenticity of eco-friendly claims, limited product variety and availability, higher perceived prices, insufficient product information, and concerns regarding product performance. These findings provide an empirical basis for a marketing dissemination strategy emphasizing credible environmental claims, product information, accessibility, performance communication, and value for money.

KEYWORDS: *eco-Friendly Cleaning Products, Environmental Awareness, Perceived Value, Consumer Adoption, Master In Business Administration, Liloan, Cebu*

INTRODUCTION

Environmental sustainability has become an important concern as production and consumption patterns continue to strain natural resources and ecosystems. Everyday household activities contribute to this concern because the products people purchase, use, and dispose of may affect the environment through their ingredients, packaging, waste, and residues. Sustainable consumption, therefore, encourages consumers to consider product usefulness and price, as well as potential environmental consequences. This has contributed to the growing availability of eco-friendly products intended to meet consumer needs while reducing environmental harm (Ogiemwonyi et al., 2023; Kim & Lee, 2023).

Household cleaning products are particularly relevant because they are used regularly for sanitation and maintenance. Some conventional cleaning agents may contribute to chemical exposure and environmental pollution, depending on their ingredients and how they are used. Mata et al. (2022) noted that cleaning products and activities may influence indoor air quality, while Saha and Dutta (2023) discussed the shift from synthetic cleaning agents toward greener alternatives in response to environmental and health concerns. Eco-friendly cleaning products have therefore emerged as alternatives that emphasize biodegradable, less-toxic, or otherwise environmentally preferable formulations.

The availability of these products, however, does not necessarily result in consumer adoption. Consumers may support environmental protection but still choose conventional products because of price, accessibility, familiarity, or perceived effectiveness. Kim and Lee (2023) found that environmental consciousness was related to purchase intention and actual purchase behavior toward eco-friendly products, although situational factors also affected purchasing decisions. Environmental concern, therefore, is only one of several considerations involved in consumer choice.

Environmental awareness (EA) and perceived value are among the factors that may shape these decisions. Consumers who understand environmental problems may be more likely to recognize the effects of household consumption, and their assessment of product value may influence whether they consider an eco-friendly alternative worth purchasing. Ogiemwonyi et al. (2023) and Shang et al. (2024)

found EA relevant to green purchase behavior and intention. Perceived value may involve price, emotional, social, and environmental benefits. Joshi et al. (2021) identified economic and emotional value as relevant to green purchase intention, while Chen and Chang (2012) showed that green perceived value was associated with stronger purchase intention. Social influence has likewise been found relevant to environmentally responsible purchasing (Yadav & Pathak, 2017; Shang et al., 2024).

These considerations can also be explained through the Theory of Planned Behavior, which proposes that attitude (AT), subjective norm (SN), and perceived behavioral control (PBC) contribute to behavioral intention (Ajzen, 1991). AT reflects whether consumers view the purchase favorably, SN concerns the influence of significant others, and PBC refers to consumers' perceived ability and opportunity to make the purchase. Lin and Dong (2023) demonstrated the usefulness of examining EA, perceived value, and behavioral factors together, while Kamalanon et al. (2022) and Mabkhot (2024) likewise found behavioral, environmental, and value-related factors important in green purchasing.

In the Philippine setting, environmentally responsible consumption is also shaped by practical and behavioral considerations. Torres (2022) highlighted the role of affordability and accessibility in consumers' willingness to purchase environmentally friendly products. Cayaban et al. (2023) found sustainability-related and behavioral factors associated with purchase intentions among Filipino consumers, while Dui et al. (2024) examined factors affecting green skincare purchase intention. Lagua et al. (2025) likewise reported relationships between eco-friendly marketing strategies and consumer purchase intentions in Tagum City. These studies show that Filipino consumers weigh environmental benefits alongside value, accessibility, attitudes, and other purchase considerations.

Within Cebu, the Municipality of Liloan provides a relevant setting for examining these factors at the household level. Consumers regularly purchase household necessities, including cleaning products, under varying levels of income, household size, educational attainment, and access to commercial establishments. These conditions may influence how eco-friendly alternatives are evaluated. Consumers may recognize their environmental benefits while still considering affordability, availability, familiarity, and effectiveness when making purchasing decisions.

Despite the growing literature on green consumption, limited evidence specifically explains the adoption of eco-friendly cleaning products among household consumers in Liloan, Cebu. Previous studies have largely examined general green products or other categories such as appliances, skincare, food, and fashion. There is therefore a need to determine consumers' environmental awareness, perceived value in terms of price, emotional, social, and environmental value, and adoption in terms of attitude, subjective norm, perceived behavioral control, and purchase intention within this local product context. Examining their relationships can also provide a clearer basis for developing a marketing strategy suited to the needs and purchasing conditions of consumers in Liloan.

Accordingly, this study examined the influence of EA and perceived value on the adoption of eco-friendly cleaning products among household consumers in Liloan, Cebu. The findings served as the basis for developing a marketing dissemination strategy responsive to consumers' purchasing conditions and identified barriers.

REVIEW OF RELATED LITERATURES

Theory of Planned Behavior (TPB) developed by Ajzen (1991)

The theory proposes that an individual's intention to perform a behavior is influenced by three major factors: AT, SN, and PBC. Behavioral intention (INT), in turn, is considered an immediate antecedent of behavior (AB). In the present study, the theory provides the basis for explaining consumers' intention to purchase eco-friendly cleaning products.

AT toward purchasing refers to the consumer's positive or negative evaluation of buying eco-friendly cleaning products. Consumers who believe that these products are beneficial, desirable, or worthwhile are expected to develop a more favorable attitude toward purchasing them. SN refers to perceived social pressure or expectations from significant persons such as family members, friends, or peers. When individuals perceive that people important to them approve of eco-friendly purchasing, their intention to buy such products may become stronger. PBC refers to consumers' perception of how easy or difficult it is to perform the behavior. In this study, it reflects whether consumers believe that they have sufficient resources, opportunity, access, and personal control to purchase eco-friendly cleaning products. Together, these three factors provide the theoretical basis for examining intention to purchase.

The TPB is particularly appropriate for this study because purchasing eco-friendly cleaning products involves both personal and situational considerations. A consumer may have a favorable attitude toward environmentally responsible products but may still be influenced by family preferences, product availability, affordability, or perceived ability to make the purchase. TPB therefore allows the study to examine consumer adoption beyond environmental concern alone by incorporating personal evaluation, social influence, and perceived control.

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Percieved Value Theory

The study is further anchored on Perceived Value Theory, particularly the concept of consumer perceived value discussed by Zeithaml (1988). Zeithaml described perceived value as the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given. This perspective recognizes that consumers do not evaluate products based solely on price; rather, they consider the benefits obtained relative to the sacrifices involved in the purchase.

In this study, perceived value is represented through price value (PV), emotional value (EMV), social value (SV), and environmental value (EV). PV refers to consumers' assessment of whether eco-friendly cleaning products are reasonably priced and provide satisfactory value for the money spent. EMV concerns the positive feelings, satisfaction, or personal fulfillment associated with choosing an environmentally responsible product. SV refers to the social approval, recognition, or positive image consumers may associate with purchasing eco-friendly products. EV, meanwhile, reflects the perceived contribution of the product to reducing environmental harm and supporting sustainability. These dimensions allow the study to capture both practical and non-monetary reasons consumers may attach value to eco-friendly cleaning products.

Perceived Value Theory complements the TPB by explaining how consumers form evaluations that may influence their purchase attitudes. A favorable assessment of price, emotional, social, or environmental benefits may strengthen consumers' positive attitudes toward eco-friendly cleaning products. Conversely, when consumers perceive insufficient value, particularly regarding price or product benefits, their attitude toward purchasing may be less favorable. This connection is reflected in the study's proposed structural model, where the dimensions of perceived value are examined in relation to attitude toward purchasing.

In addition to these theories, environmental awareness is incorporated as an important explanatory construct. In the manuscript, EA refers to consumers' concern and understanding of environmental issues related to pollution, chemical exposure, climate change, and sustainability. EA is not treated as a separate formal theory in the same sense as TPB or Perceived Value Theory; rather, it functions as a cognitive construct that may influence how consumers evaluate environmentally responsible products. Consumers who are more aware of environmental problems may be more likely to recognize the ecological benefits of eco-friendly cleaning products and consequently develop more favorable attitudes toward purchasing them.

RESEARCH METHODOLOGY

A quantitative approach is appropriate as the study seeks to measure relationships among variables using structured data, while the descriptive component allows for the profiling of respondents and assessment of construct levels. The correlational aspect enables the determination of the degree and direction of relationships among environmental awareness, perceived value dimensions, and behavioral intention.

The study is conducted in Liloan, a first-class municipality located in the northern part of Cebu Province. Liloan is characterized by a combination of residential communities, emerging commercial establishments, and semi-urban areas. This setting provides an appropriate context for examining consumer behavior, as it reflects varying levels of income, household composition, and access to eco-friendly products within a localized community.

This study utilized a structured questionnaire adapted from the instrument developed by Lin and Dong (2023). The original instrument was developed to examine consumer purchase intention by integrating behavioral, value-based, and environmental awareness constructs. For the present study, the questionnaire was contextually modified to examine consumers' adoption of eco-friendly cleaning products while retaining the conceptual foundations and measurement approach of the original instrument.

The study gathered responses from 347 households, in line with Hair et al. (2021), which recommend a sample size of at least 300 for multivariate analyses, including regression and structural equation modeling. The achieved sample size provided sufficient observations to estimate the specified structural model, subject to the limitations of purposive sampling. A purposive sampling technique is employed in selecting respondents. This method allows the researcher to deliberately select participants who meet specific criteria relevant to the study, such as being responsible for household purchasing decisions and having experience purchasing cleaning products. By focusing on individuals who are most knowledgeable and directly involved in the behavior under investigation, purposive sampling ensures that the data collected are both relevant and meaningful.

RESULTS AND DISCUSSION

Demographic Profile

The study sample was predominantly young (70.89% aged 15–24), female (80.12%), and educated up to high school (49.28%) or baccalaureate level (40.92%), reflecting demographics frequently examined in green consumption research. Although previous literature

highlights gender differences in environmental attitudes—such as Mostafa (2007) finding greater environmental concern among Egyptian men, contrasted by Migheli (2021) noting context-dependent or negligible gender effects—the gender distribution here merely describes the sample rather than implying higher adoption by women. Similarly, while education fosters environmental awareness (Lee & Hung, 2024), higher attainment does not always increase willingness to pay for green items (Gomes et al., 2023). Economically, 53.61% of respondents reported monthly household incomes of ₱20,000 or below, aligning with findings by Harley et al. (2021) where price served as a barrier for green cleaning products, alongside a full-time (55.04%) or independent contracting (36.02%) workforce context that primarily provides background purchasing resources rather than direct behavioral determination.

Regarding consumer behavior, purchasing frequency varied, with the largest group (31.12%) buying cleaning products less than once every three months, followed by 22.48% purchasing monthly and 20.17% weekly, reflecting natural variations in household care consumption and replacement rates (Moran et al., 2012). This repeated purchasing offers opportunities to evaluate product attributes, with Peiris et al. (2024) highlighting functional, conditional, and epistemic values as significant drivers of green cleaning-product purchases. Furthermore, while Canova et al. (2026) found that actual green household care purchasing was linked to favorable attitudes, perceived behavioral control, social support, and stable intentions, respondents still exhibited relatively low purchase frequencies of approximately once a month, demonstrating that favorable perceptions do not automatically translate into frequent green purchases.

ENVIRONMENTAL AWARENESS AMONG CONSUMERS

Data shows that the respondents strongly agreed with all indicators of EA, obtaining an overall mean of 4.56 (SD = 0.51). The highest-rated statement was willingness to protect the environment to the best of one's ability (M = 4.67, SD = 0.56), followed by concern about broader environmental issues such as climate change (M = 4.61, SD = 0.56). Respondents also strongly agreed that they were concerned about the environmental impact of chemical-based cleaning agents (M = 4.49, SD = 0.62) and pollution caused by household cleaning products (M = 4.47, SD = 0.68).

These findings indicate a high level of environmental concern among the respondents. More specifically, respondents not only recognized broad environmental problems but also associated environmental concerns with household cleaning products. Their particularly high agreement with willingness to protect the environment suggests that environmental concern is accompanied by a stated disposition toward environmental responsibility.

The finding is supported by studies focusing on consumers' environmental perceptions of household cleaning products. Bearth et al. (2017) found that consumers distinguish between eco-friendly and conventional household cleaning and washing products when evaluating product risks, with eco-friendly cleaning products generally perceived as safer than conventional alternatives.

PERCEIVED VALUE OF ECO-FRIENDLY CLEANING PRODUCTS

The results reveals an overall mean of 4.38 (SD = 0.60), interpreted as Strongly Agree, indicating that respondents generally perceived eco-friendly cleaning products as economically valuable. The highest mean was obtained for the statement that eco-friendly cleaning products help reduce long-term costs through safer use and less waste (M = 4.56, SD = 0.60). This was followed by the perception that the products provide good value for money (M = 4.33, SD = 0.70). Although still interpreted as Strongly Agree, the perception that eco-friendly cleaning products are reasonably priced obtained the lowest mean (M = 4.25, SD = 0.76).

The results suggest that respondents perceive eco-friendly cleaning products as providing economic benefits beyond their immediate purchase price. Interestingly, the comparatively lower rating for reasonable pricing suggests that consumers may distinguish between the initial price of the product and its overall value. Thus, consumers may perceive eco-friendly cleaning products as valuable even when affordability is somewhat less strongly endorsed.

Emotional Value

The overall mean was 4.26 (SD = 0.67), interpreted as Strongly Agree. Respondents most strongly agreed that purchasing eco-friendly cleaning products makes them feel that they are contributing positively to the environment (M = 4.38, SD = 0.69). This was followed by feeling like a better person when choosing eco-friendly products over conventional alternatives (M = 4.21, SD = 0.75). The statement that purchasing eco-friendly products brings more joy than purchasing conventional products obtained the lowest mean (M = 4.20, SD = 0.75), interpreted as Agree.

The findings suggest that the EV associated with eco-friendly cleaning products stems more strongly from a sense of positive environmental contribution than from simple enjoyment of the purchase. In other words, respondents appear to associate eco-friendly consumption with personal fulfillment and environmental responsibility rather than merely the pleasure of shopping.

This pattern is also consistent with Hartmann and Apaolaza-Ibáñez (2012), who explained that environmentally responsible consumption may provide psychological benefits, including positive feelings associated with contributing to environmental welfare. Joshi et al. (2021) likewise recognized emotional value as an important component of consumers' evaluation of green products, reflecting the affective benefits consumers associate with environmentally responsible consumption.

Social Value

SV refers to the perceived social benefits associated with purchasing eco-friendly cleaning products. It considers whether choosing these products creates a positive impression, provides social recognition, or contributes to a favorable image among peers.

Social value recorded an overall mean of 4.14 (SD = 0.76), interpreted as Agree. Respondents strongly agreed that purchasing eco-friendly cleaning products creates a positive impression on others (M = 4.31, SD = 0.75). However, they only agreed that purchasing these products helps create a positive image among peers (M = 4.12, SD = 0.85) and makes them feel recognized by others (M = 3.99, SD = 0.89).

The findings indicate that respondents recognize a SV in using eco-friendly cleaning products, particularly in terms of creating a favorable impression on others. However, the comparatively lower ratings for social recognition and positive image within peer groups suggest that the perceived social benefits are expressed more through the general impression associated with environmentally responsible consumption than through a strong expectation of personal recognition. Thus, respondents acknowledge that choosing eco-friendly cleaning products may convey a socially favorable image, although direct recognition from others is less strongly emphasized.

Environmental Value

EV refers to consumers' perception of the environmental benefits derived from using eco-friendly cleaning products. It reflects the extent to which consumers believe these products help reduce pollution, minimize harmful chemical emissions, and contribute to environmental sustainability.

The result indicates a very high perception of EV, with an overall mean of 4.52 (SD = 0.59), interpreted as Strongly Agree. Respondents most strongly agreed that eco-friendly cleaning products contribute to environmental sustainability (M = 4.56, SD = 0.61), followed by their role in reducing environmental pollution (M = 4.52, SD = 0.63) and minimizing harmful chemical emissions (M = 4.49, SD = 0.65). The findings indicate that respondents consistently associate eco-friendly cleaning products with environmental protection. In particular, the highest rating for contribution to environmental sustainability suggests that respondents view these products not merely as alternatives to conventional cleaners, but as products that may support broader environmental goals. The similarly high ratings for reducing pollution and minimizing harmful chemical emissions further show that respondents recognize specific ecological benefits associated with their use.

CONSUMER ADOPTION OF ECO-FRIENDLY CLEANING PRODUCTS

Consumer adoption was examined through attitude toward purchasing, subjective norm, perceived behavioral control, intention to purchase, and actual behavior. These dimensions allow the study to distinguish favorable evaluations and intentions from respondents' reported purchasing behavior.

Attitude Toward Purchasing

Data reveals an overall mean of 4.41 (SD = 0.60), interpreted as Strongly Agree. Respondents strongly agreed that purchasing eco-friendly cleaning products is a good idea because of their benefits (M = 4.45, SD = 0.64), that purchasing them is a wise choice (M = 4.41, SD = 0.67), and that they feel satisfied when purchasing them because of their benefits (M = 4.39, SD = 0.67).

The findings suggest that respondents generally regard purchasing eco-friendly cleaning products as beneficial, sensible, and satisfying. Such favorable evaluations are important because attitude represents one of the central antecedents of behavioral intention in the TPB. Ajzen (1991) explains that individuals who evaluate a behavior positively are more likely to form the intention to perform it. In green-consumption research, favorable attitudes have likewise been associated with stronger purchase intentions for environmentally responsible products (Paul et al., 2016; Yadav & Pathak, 2017). The strongly favorable attitudes observed in the present study indicate that respondents generally perceive eco-friendly cleaning products positively, although whether these attitudes translate into purchase intention and actual behavior is more appropriately examined in the structural model results.

Subjective Norm

SN refers to the perceived social influence of people who are important to consumers in making purchasing decisions. It reflects the extent to which family, friends, and other valued individuals encourage or prefer the purchase of eco-friendly cleaning products.

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Data reveals an overall mean of 4.06 (SD = 0.77), interpreted as Agree. The highest mean was obtained for the belief that people valued by the respondents think they should purchase eco-friendly cleaning products (M = 4.09, SD = 0.83). This was followed by family or friends believing they should purchase eco-friendly products instead of conventional products (M = 4.05, SD = 0.82), while the preference of important people for eco-friendly alternatives obtained M = 4.04 (SD = 0.85).

The findings indicate that respondents perceive a generally supportive social environment regarding the purchase of eco-friendly cleaning products. The closely clustered mean scores suggest that this social support is evident across different sources, including family, friends, and other individuals whom respondents consider important. In particular, the highest-rated indicator reflects respondents' perception that people they value approve of or encourage the purchase of eco-friendly cleaning products.

This pattern is consistent with Ajzen's (1991) TPB, which defines subjective norm in terms of perceived social pressure or expectations from significant others regarding whether a particular behavior should be performed. In the context of this study, SN reflects perceived approval and encouragement from family members, friends, peers, and other important individuals concerning the purchase of eco-friendly cleaning products. In contrast, Paul et al. (2016) reported that subjective norm did not significantly predict green-product purchase intention in their sample. These contrasting findings indicate that the role of social influence can vary by product category and consumer context.

Perceived behavioral control

PBC refers to consumers' perception of their ability and control over purchasing eco-friendly cleaning products. It reflects their perceived capacity to choose these products over conventional alternatives when given the opportunity.

This indicates that PBC obtained an overall mean of 4.39 (SD = 0.60), interpreted as Strongly Agree. Respondents strongly agreed that, given a choice, they would choose eco-friendly cleaning products over conventional products (M = 4.46, SD = 0.62) and that they would purchase them if they could (M = 4.46, SD = 0.64). They also strongly agreed that the decision to purchase eco-friendly cleaning products is largely up to them (M = 4.27, SD = 0.77).

The findings indicate that respondents generally perceive themselves as having substantial discretion in choosing eco-friendly cleaning products. The equally high ratings for PCB1 and PCB2 show a strong perceived capacity to select eco-friendly alternatives when the opportunity is available. Meanwhile, the slightly lower mean and higher standard deviation for PCB3 indicate somewhat greater variation in respondents' perceptions of whether the final purchasing decision is entirely within their personal control. This variation may reflect differences in the degree of choice or opportunity experienced by individual respondents, although the overall rating remains strongly favorable.

This finding is consistent with Ajzen's (1991) conceptualization of PBC as the perceived ease or difficulty of performing a behavior. Similar considerations have been identified in green-consumption research. Yadav and Pathak (2017) emphasized consumers' perceived control in purchasing green products and identified control beliefs as relevant to how consumers perceive their ability to engage in green purchasing. A Philippine study by Abeysekera et al. (2022) likewise explained that PBC in green purchasing can involve both internal factors, such as consumers' perceived ability to make environmentally responsible choices, and external conditions, including whether green products can be readily obtained. Thus, while respondents perceive considerable personal control over choosing eco-friendly cleaning products, actual purchasing opportunities may still depend on conditions such as product availability, accessibility, and resources.

Intention to purchase

INT refers to consumers' willingness and plans to purchase eco-friendly cleaning products. It reflects their preference for eco-friendly alternatives and their willingness to purchase these products in the future when given the opportunity.

Respondents reported the strongest willingness to purchase eco-friendly cleaning products when given the opportunity (M = 4.44, SD = 0.65). They also intended to purchase them in the near future (M = 4.35, SD = 0.69) and would choose eco-friendly alternatives over conventional products when purchasing cleaning products (M = 4.34, SD = 0.71).

Actual behavior

The overall mean was 4.04 (SD = 0.82), interpreted as Agree. Respondents reported purchasing eco-friendly cleaning products for household use (M = 4.18, SD = 0.85) and choosing eco-friendly products when purchasing cleaning supplies (M = 4.08, SD = 0.86). Regular purchasing and having purchased eco-friendly cleaning products within the previous six months both recorded lower means of 3.95.

The findings indicate that respondents generally engage in eco-friendly purchasing behavior, particularly for household use and when selecting among cleaning-product alternatives. However, the relatively lower ratings for regular purchasing and purchases within the previous six months suggest that such behavior may not be equally consistent or frequent among all respondents. The higher standard deviations for these two indicators also reflect greater variation in respondents' reported purchasing frequency.

This pattern is consistent with previous green consumption research showing that favorable purchase intentions do not always translate into APB. Joshi and Rahman (2015), in their review of 53 empirical studies on green purchasing, identified inconsistencies between favorable environmental attitudes or intentions and actual green purchase behavior, noting that both individual and situational barriers can affect consumers' purchasing decisions. Similarly, Kim and Lee (2023), in a study of consumers with experience purchasing eco-friendly products, observed that purchase intention was related to actual purchase behavior but that situational factors such as ease of purchase and the credibility of eco-labels affected the extent to which intention was translated into purchasing behavior.

CONCLUSIONS

Based on the findings, consumer adoption of eco-friendly cleaning products in Liloan, Cebu is associated not merely with awareness of environmental concerns but more substantially with how consumers evaluate the products' environmental, emotional, social, and economic value, as well as with their perceived ability and opportunity to purchase them. Although respondents generally expressed favorable attitudes and strong purchase intentions, actual adoption may still be constrained by doubts regarding environmental claims, limited product availability, perceived higher prices, insufficient information, and concerns about product performance. Thus, encouraging wider adoption requires not only promoting EA but also strengthening consumers' confidence in product value, accessibility, credibility, and practical usefulness.

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