

THE INFLUENCE OF THE PERCEPTION OF HEALTH BENEFITS AND ENVIRONMENTAL FRIENDLINESS ON OAT DRINK PURCHASE DECISIONS

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Abstract:

Background: Increasing public awareness of environmental and health issues has driven a shift in consumption patterns toward plant-based products, such as oat beverages, which are considered more environmentally friendly and healthier than cow's milk. In Indonesia, the consumption of oat beverages has increased; however, challenges remain, including limited consumer understanding of product benefits and intense market competition.

Purpose: This study aims to identify the decision-making process involved in purchasing oat beverages and analyze the influence of packaging design, sensory attributes, labeling, perceived healthiness, and environmental friendliness on consumer purchasing decisions.

Design/Methodology/Approach: This study employed multistage random sampling and collected data through questionnaires to respondents who had previously purchased oat drinks and met the specified criteria. Data were collected offline through questionnaires administered to 230 respondents from three faculties at IPB University over a one-month period, from February to March 2025. A quantitative approach was employed using Partial Least Squares–Structural Equation Modeling (PLS-SEM).

Results: Based on PLS-SEM analysis, all indicators meet the validity and reliability criteria. Labeling, perceived healthiness, and environmental friendliness are perceived to influence purchase decisions for oat drinks significantly. Packaging design, sensory attributes, control variables, namely age and expenditure do not affect the purchase decision.

Conclusion: Clear product information and health and sustainability-related claims are key drivers of oat beverage purchasing decisions and can strengthen marketing strategies in a competitive market.

Originality/value (State of the art): This study offers empirical evidence on consumer purchasing behavior for oat beverage purchasing decisions in Indonesia, highlighting labeling, health perception, and environmental friendliness as strategic considerations for marketing plant-based products.

Keywords: health perception, labeling, oat drink, packaging design, purchase decision

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INTRODUCTION

In recent years, consumer awareness of environmental and health issues has increased. One change in consumption patterns is the growing interest in plant-based milks, such as oat drinks, which are more environmentally friendly than cow's milk. Environmental issues such as global warming, water and air pollution, and agricultural land erosion seriously threaten the balance of ecosystems and human survival (Hu et al., 2010). Cow milk production contributes to environmental problems, including soil degradation, water pollution, and biodiversity loss (Haas et al., 2019). This has driven consumer awareness and demand for more sustainable alternatives.

Increased public awareness of health and sustainability has encouraged consumers to be more selective in choosing their products. In addition to environmental issues, the number of people with lactose intolerance is also continuing to rise (Szilagyi, 2015). A similar trend can be seen in the increasing number of individuals who are allergic to cow's milk or have other health problems, such as high cholesterol levels, which encourage them to adopt a healthy diet (Sethi et al., 2016). This situation has prompted consumers to look for alternatives to cow's milk. One such alternative is plant-based milk, with oat drinks becoming increasingly popular because they offer health benefits while reducing carbon footprints. Oat drink production has significant environmental advantages over cow's milk, further strengthening its appeal among sustainability-conscious consumers. For every liter of oat drink produced, only about 48 liters of water are required, compared to 1,020 liters for cow's milk. This demonstrates significantly better efficiency in water resource use (Poore & Nemecek, 2018).

Furthermore, the greenhouse gas emissions from oat beverage production are significantly lower, at around 0.4 kg CO₂e per liter, compared to cow's milk, which can reach 3,2 kg CO₂e per liter. This makes oat milk a more attractive option for consumers concerned about climate change. Cow's milk production is also often associated with deforestation and habitat loss, while crop production for oat milk has a more minor impact on biodiversity (Fischer et al., 2008).

The rise in oat beverage consumption in Indonesia reflects a significant shift in dietary habits, with consumers increasingly concerned about health and sustainability. This awareness drives consumers to be more selective in their purchases. Many people are now considering the environmental impact of their food choices, making plant-based products like oat milk an attractive alternative that offers health benefits while contributing to a reduced carbon footprint.

Existing studies report that plant-based beverages are gaining recognition globally due to increasing concerns about health and sustainability. (Su et al., 2024) documented substantial growth in the global plant-based beverage market, with China's consumption increasing by 80% in 2020. Research in Indonesia also shows that health beliefs and environmental awareness positively influence attitudes and purchase intentions toward plant-based milk. Insani & Amalia (2024) also found that despite this progress, studies focusing specifically on oat drinks remain limited, particularly in examining environmental perception as an independent factor influencing purchasing decisions. Moreover, previous research has concentrated mainly on general consumers, whereas university students, who tend to be more informed about health, nutrition, and sustainability issues, represent an important yet understudied segment. The novelty of this study lies in its analysis of environmental friendliness as a distinct predictor of oat drink purchasing decisions, its focus on university students from IPB University as a relevant and informed consumer group, and its integration of multiple determinants such as packaging design, sensory attributes, labeling, perceived health benefits, and perceived environmental friendliness within a comprehensive analytical framework using PLS-SEM.

Research focusing specifically on oat drinks in Indonesia remains limited, particularly in consumer segments, and environmental friendliness is considered a distinct factor. While existing studies have generally examined health and sustainability perceptions more broadly, few have explicitly measured how perceptions of environmental friendliness influence purchasing decisions. This study is also unique in that it targets university students specifically from Bogor Agricultural University (IPB University) as respondents. This group is considered relevant because students are a young, educated consumer segment who are health-conscious and more exposed to sustainability issues and market innovations.

This Research aims to: 1. identify the purchasing decision process for oat-based beverages; and 2. analyse the influence of packaging design, sensory attributes, labels, health perceptions, and environmental perceptions on purchasing decisions for oat-based beverages.

METHODS

This study used a multistage random sampling method by distributing questionnaires to respondents who had previously purchased oat drinks and met the eligibility criteria. Data were collected offline from February to March 2025. Respondents were students from three faculties: FEM (five study programs), FAPET (three study programs), and FMIPA (eight study programs). These faculties were selected because FEM provides insights into marketing and consumer behavior, FAPET contributes perspectives on food production and sustainability (animal vs. plant-based milk), and FMIPA offers scientific knowledge on nutrition and health benefits. The minimum respondent age was 17 years, considered legally mature to understand the questionnaire (Hurlock, 2006). A total of 230 respondents and 23 indicators were analyzed, meeting recommended sample size requirements.

The variables used in this study consist of independent variables (X): packaging design, sensory attributes, environmental friendliness perception, health perception, and labels. The dependent variable (Y) is the purchasing decision. The Likert scale used in the

questionnaire can be seen in Table 1.

The research data were analyzed using descriptive statistics and PLS-SEM (Partial Least Squares–Structural Equation Modeling). Descriptive statistics were used to summarize consumer characteristics and oat drink purchasing decisions. PLS-SEM was then applied to test and validate the research model because it is suitable for large samples and non-normal data (Hair et al. 2006).

The analysis began with assessing the measurement model to ensure validity and reliability. Convergent validity was evaluated using factor loadings (>0.7) and AVE (>0.5), while discriminant validity was assessed through cross-loadings (>0.7). Reliability was confirmed using Cronbach’s Alpha and Composite Reliability (>0.7) (Ghozali, 2014; Hamid & Suhardi, 2019). The structural model was then tested using bootstrapping, with path significance determined by t-statistics exceeding critical values (2.57 at $\alpha = 1\%$ and 1.96 at $\alpha = 5\%$) and supported by corresponding p-values (Hair et al., 2014). PLS-SEM was chosen for its predictive strength and flexibility, using data from 230 respondents, which meets recommended sample size standards (Abdillah, 2018).

The variables used in this study consist of the dependent variable (Y), namely purchase decision; independent variables (X), that is, packaging design, sensory attributes, environmental perception, health perception, and labels. Study of variables and indicators used in the study (Table 2).

Table 1. Mapping of the Likert scale on the research questionnaire

Attitude	Likert Scale
Absolutely Agree	7
Strongly agree	6
Agree	5
Quite Agree	4
Somewhat Disagree	3
Disagree	2
Strongly Disagree	1

Table 2. Measurement of research variables related to packaging design, sensory attributes, label, health perception, and environmental friendliness

Latent Variable	Indicators
Packaging Design (H1) (Wang et al. 2023)	Packaging Color (H1.1) Packaging Form (H1.2) Picture and Illustration (H1.3) Packaging Materials (H1.4) Packaging Technology (H1.5)
Sensory Attributes (H2) (Anetoh et al. 2020)	Visual Attributes (H2.1) Gustatory Attributes (flavor) (H2.2) Tactile Attributes (touch) (H2.3) Olfactory Attributes (Aroma) (H2.4)
Environmentally Friendly Perception (H3) (Sanchez & Lafuente, 2010)	Consumer Awareness (H3.1) Product Impact on Environment (H3.2) Purchasing Preferences (H3.3)
Health Perception (H4) (Chang et al. 2020)	Health values (H4.1) Interest in healthy food (H4.2) Health Orientation (H4.3)
Label (H5) (Kumar & Kapoor, 2017)	Nutrition Information (H5.1) Production and Expiration Dates (H5.2) Price (H5.3) Health Warning (H5.4) Storage (H5.5) Instructions (H5.6) Product Quality Claims (H5.7)
Purchase Decision (H6) (Kotler P, 2008)	Health Solution Search (H6.1) Pre-Purchase Information (H6.2) Brand (H6.3) Time and location (H6.4) Recommendations based on experience (H6.5)

This research framework explains the relationship between various factors influencing the purchase of oat drinks. The independent variables tested include packaging design (H1), sensory attributes (H2), environmental friendliness perception (H3), health perception (H4), and product labeling (H5). These variables are assumed to influence the dependent variable, namely, purchasing decisions (Y). In addition, consumer age and expenditure level control variables are also analyzed to determine their role in strengthening or weakening the relationship between variables (Figure 1).

RESULTS

General Characteristics of Respondents

The respondents in this study were students of the Bogor Agricultural Institute (IPB University) who had experience purchasing and consuming oat beverage products. A total of 230 respondents were obtained through a multistage random sampling technique, which was carried out in several stages. The first stage was grouping by faculty, namely the Faculty of Economics and Management (FEM), which consists of five study programs, the Faculty of Animal Husbandry (FAPET) with two study programs, and the Faculty of Mathematics and Natural Sciences (FMIPA) with eight study programs. The second stage was grouped by year: the 58th, 59th, and 60th years. The third stage was carried out by randomly selecting respondents from each faculty and year, with the condition that

they had purchased and consumed oat beverages. The characteristics analyzed in this study included the respondents' age, gender, study program, and year. Data on the general characteristics of the respondents can be seen in Table 3.

The oat drink respondents in this study were predominantly female (66%), compared to 78 males (34%). This suggests that women tend to be more health-conscious in their beverage choices, including oat drinks. This finding supports Ibrahim (2017), who reported that gender significantly influences perceptions and motivations in consuming functional foods and beverages, with women demonstrating greater interest in health-related benefits. In terms of age, most respondents were 21–22 years old (56%), followed by the 18–20 age group (41.7%), and the remaining 22–24 years, as many as five respondents (2,1%) which states that productive-age students have a higher level of acceptance of functional foods and drinks because they are more health conscious and have broad access to information.

The demographic data revealed that oat beverage respondents were predominantly female (66%) and largely belonged to the early adulthood group aged 21–22 years (56%). This profile suggests that the target market is highly conscious of health and trends, reflecting the influence of gender on motivation for consuming functional foods (Ibrahim, 2017) and the high acceptance rate of modern, healthy products among productive-aged students (Sosianika et al., 2024).

Based on faculty distribution, respondents were predominantly from FEM (43%), followed by FAPET (38.6%) and FMIPA (17.4%). The dominance of economics students may reflect their greater understanding of market trends and product value, leading to stronger responsiveness toward health-related product claims (Elvierayani & Choiroh, 2020). Analysis by academic cohort further revealed that students from the earlier cohort (58th grade) represented the largest proportion of consumers (42.6%), suggesting that earlier exposure to the oat drink trend and social environments during their initial college years facilitated higher adoption rates.

Perceived health benefits were the primary driver of oat beverage purchasing decisions among students from FEM, FAPET, and FMIPA. Data showed that 89 of the 230 respondents (38,70%) highlighted this aspect, indicating that perceived health benefits or the belief that oat beverages are healthier were the primary drivers of purchasing decisions (Table 4). This finding is consistent with the literature showing that health awareness dominates food and beverage choices (Smith & Jones, 2023) Although taste (52 respondents or 22,61%) remained relevant, its position was slightly displaced by the dominance of health and trend aspects. Analysis by faculty showed that while FMIPA and FAPET had similar tendencies to prioritize health, FMIPA also showed a strong influence from trends. Environmental friendliness compared to cow's milk was indicated by 28 respondents (12,17%). FMIPA showed the highest percentage (20,00%) compared to other faculties. This indicates a student segment more concerned with sustainability issues, in line with increasing global environmental awareness that influences consumption patterns (Butar et al., 2024)

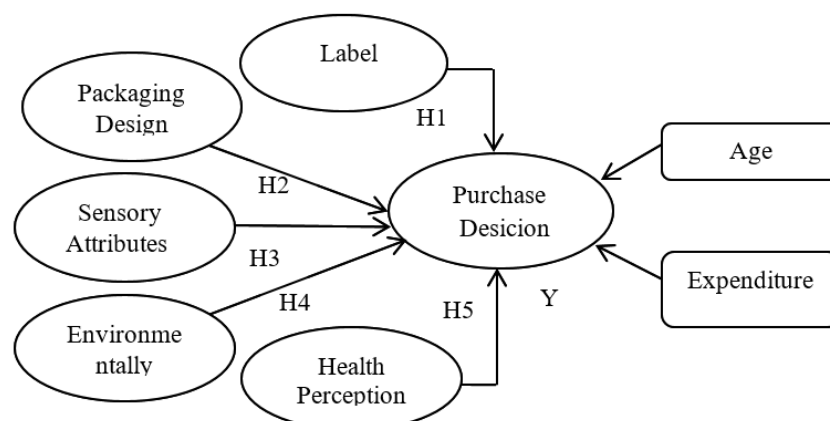


Figure 1. Framework for the research model showing the relationship between packaging design, sensory attributes, health perception, environmental friendliness, label, and purchase decision of oat drinks

Table 3. Distribution of respondents based on demographic characteristics of oat drink consumers

Characteristics	Description	Amount	Percentage (%)	Std. Dev	Mean	Max	Min
Gender	Male	78	34	52.33	115	152	78
	Female	152	66				
Age	18 – 20	95	41.3	64.49	76.67	130	5
	21 – 22	130	56.5				
	23 – 24	5	2.1				
Faculty	FEM	101	43	32.32	76.67	101	40
	FAPET	89	38.6				
	FMIPA	40	17.4				
Class of	58	98	42.6	20.13	76.67	98	58
	59	74	32.1				
	60	58	25.2				

Table 4. Frequency distribution of respondents based on faculty and perception Indicators of oat drink

Faculty	Belief that oat drinks are healthier	Oat drinks have a delicious taste	Trying current trends	Environmentally friendly compared to cow's milk	Total Respondents
FEM	37 (38.95%)	21 (22.11%)	28 (29.47%)	9 (9.47%)	95
FAPET	33 (41.25%)	18 (22.55%)	21 (26.25%)	8 (10.00%)	80
FMIPA	19 (34.55%)	13 (23.64%)	12 (21.82%)	11 (20.00%)	55
Total	89 (38.70%)	52 (22.61%)	61 (26.52%)	28 (12.17%)	230

The influence of perceived health and environmental benefits on purchasing decisions was measured using PLS-SEM analysis. PLS-SEM analysis consists of two sub-models: the measurement model (outer model) and the structural model (inner model). Analysis of the measurement model (outer model) is used to measure the validity and reliability of the model that has been prepared. The outer model analysis carried out includes convergent validity tested through the outer loading value (> 0.70), Average Variance Extracted (AVE) (> 0.50). Discriminant validity is tested by ensuring that the cross-loading value of each indicator is greater than that of the other indicators. Moreover, construct reliability is tested through composite reliability (CR) and Cronbach's Alpha, with an ideal value of > 0.70 (Figure 2).

The results show that all indicators meet the validity and reliability criteria. The packaging design variable recorded the highest loading factor on indicator H1.2 (0.894), while the sensory attribute variable showed its highest loading on H2.4. The environmental friendliness variable scored highest on H3.1 (0.871), representing consumer awareness. The perceived health benefits variable peaked on H4.1 (0.844), and

the label variable on H5.6 (0.776). The purchasing decision variable recorded the highest loading factor on Y1.5 (0.895).

Discriminant validity analysis indicated that all latent variables had Average Variance Extracted (AVE) values above the 0.50 threshold, confirming convergent validity. The environmental friendliness variable showed the highest AVE (0.726), followed by packaging design (0.670), perceived health benefits (0.679), sensory attributes (0.610), label (0.591), and purchasing decisions (0.571). These results demonstrate adequate construct validity for all variables (Hair et al., 2010).

All latent variables demonstrated strong reliability, with Composite Reliability (CR) values exceeding the recommended threshold of 0.80 (Lim & Rembulan, 2021). The packaging design variable recorded a CR of 0.890, followed by environmental friendliness and label perception at 0.888, purchasing decisions at 0.869, perceived health benefits at 0.864, and sensory attributes at 0.849. These results indicate that all constructs are highly reliable.

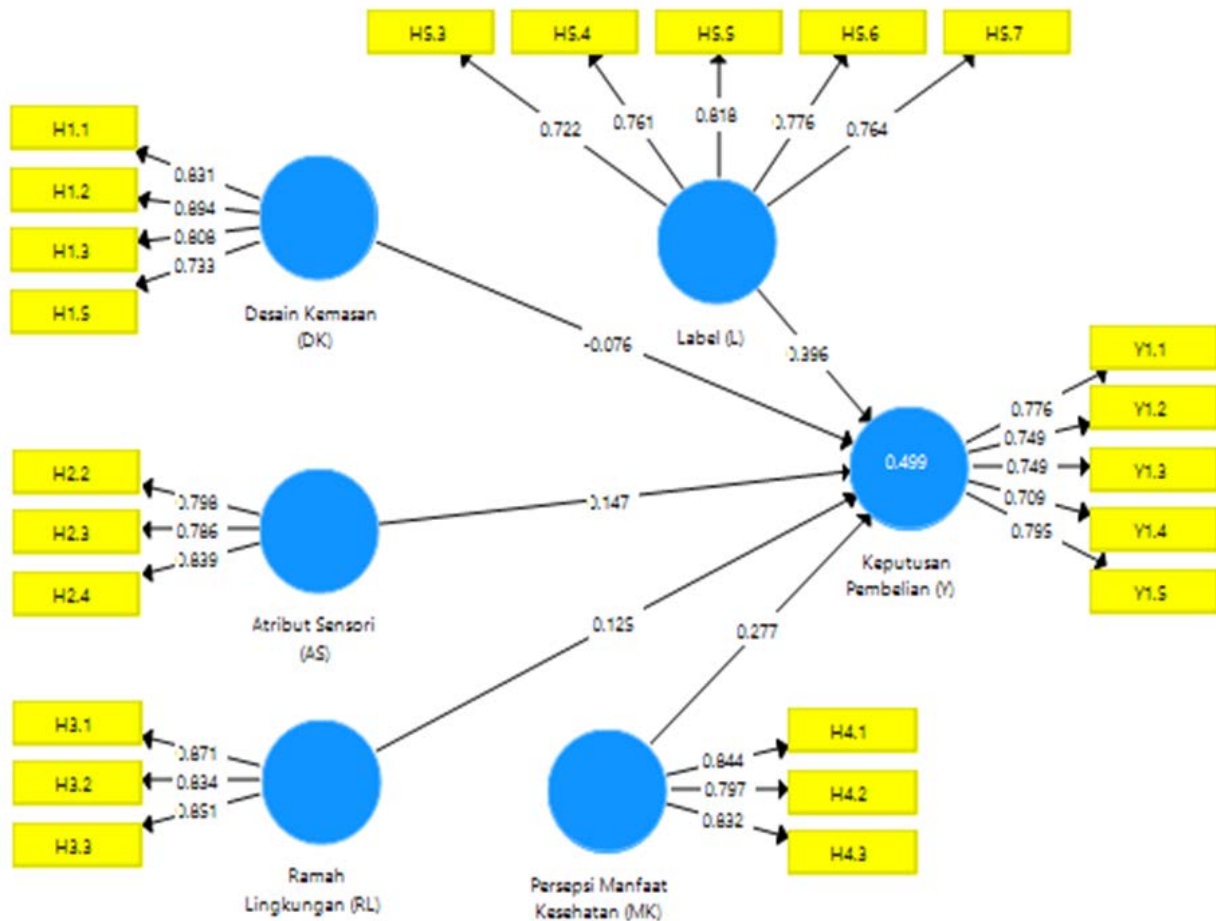


Figure 2. Loading factor value of the Model Showing Relationships between Perceived Health Benefits (MK), Environmental Friendliness (RL), Labeling (L), and Purchase Decisions (Y)

The coefficient of determination (R^2) for purchasing decisions was 0.49, indicating a moderate level of predictive accuracy (Hair et al., 2010). Specifically, 49% of the variance in purchasing decisions can be explained by packaging design, sensory attributes, environmental friendliness, perceived health benefits, and labeling. In comparison, the remaining 51% is influenced by other factors outside the scope of the model.

The results of the bootstrapping analysis at a 5% significance level ($\alpha = 0.05$) indicate that perceived environmental friendliness ($p = 0.000$; $t = 3.609$), perceived health benefits ($p = 0.000$; $t = 5.133$), and labeling ($p = 0.000$; $t = 5.211$) demonstrate a significant positive effect on purchasing decisions. In contrast, packaging design ($p = 0.866$; $t = 0.169$) and sensory attributes ($p = 0.061$; $t = 1.874$) did not show a significant effect (Table 5).

Among the significant variables, the label variable demonstrated the strongest influence ($t = 5.211$), suggesting that clear and informative product labels enhance consumer trust and purchasing intentions (Cowburn & Stockley, 2005; Nugraha et al., 2015). For plant-based beverages such as oat drinks, transparent labeling including nutritional content and eco-friendly claims plays a crucial role in shaping positive consumer perceptions.

The inner model evaluation using the bootstrapping procedure (Table 5) indicates that relationships among variables are considered confirmed when the t-statistic meets the thresholds of ≥ 1.96 ($\alpha = 5\%$) or ≥ 2.57 ($\alpha = 1\%$), accompanied by the corresponding p-values (Hair et al., 2022). The results show that three variables environmental perception ($t = 3.609$; $p = 0.000$), health benefit perception ($t = 5.133$; $p = 0.000$), and label ($t = 5.211$; $p = 0.000$)—were confirmed to have an influence on purchasing decisions. In contrast, packaging design ($t = 0.169$; $p = 0.866$) and sensory attributes ($t = 1.874$; $p = 0.061$) were not confirmed as influential factors.

Table 5. Bootstrapping analysis between packaging design, sensory attributes, health perception, environmental friendliness, label, and purchase decision of oat drinks

Research Variable	Coefficient	T-statistic (O/STDEV)	P-value
Packaging Design → Purchase Decision	-0.009	0.169	0.866
Sensory Attributes → Purchase Decision	0.116	1.874	0.061
Environmental Friendliness → Purchase Decision	0.201**	3.609	0.000
Health Benefit Perception → Purchase Decision	0.311**	5.133	0.000
Label → Purchase Decision	0.309**	5.221	0.000
Age → Purchase Decision	0.000	0.009	0.993
Expenditure → Purchase Decision	-0.020	0.523	0.601

Note: **Significant at 1% significance *Significant at 5% significance

The results further show that the label variable was confirmed to affect purchasing decisions ($t = 5.221$). This strong relationship indicates that clear, accurate, and informative labels enhance consumer trust and purchase likelihood, consistent with the findings of Hernández-Domínguez CA (2024); Mukhtar M & Saleem K (2019), and Cowburn and Stockley (2005). Information such as nutritional content, lactose-free claims, and environmental certifications serves as a key stimulus shaping consumer perceptions of oat drinks. Crucially, the label helps consumers thoroughly assess the product's functional benefits and sustainability alignment, demonstrating that purchase decisions are driven more by information clarity than by packaging visuals alone.

Health benefit perception was confirmed to affect purchasing decisions ($t = 5.133$; $p = 0.000$). Consumers prefer products they believe provide functional benefits, including being lactose-free, low in saturated fat, and high in fiber. This perception acts as a crucial stimulus, shaping preference by driving the belief that the product offers functional value aligned with a healthy lifestyle. This result aligns with studies by (Fransisca F et al., 2016; Santoso I, 2016; Vidya C et al., 2018), which emphasize that the assessment of health-related claims is a primary element, not a mere supplementary factor, in influencing purchases of functional beverages.

Environmental perception was also confirmed ($t = 3.609$; $p = 0.000$), indicating that consumers are more likely to purchase oat beverages when they are perceived as sustainable. Prior studies strongly support this finding (Naranjo et al., 2020; Roos et al., 2016; Van et al., 2008). Strongly support this finding, demonstrating that oat milk inherently requires lower emissions, land use, and water consumption compared to cow's milk: For example, oat drinks produce only about 0.9 kg CO₂e/liter compared to 3.2 kg CO₂e/liter

for cow's milk. This ecological awareness reinforces the preference for plant-based beverages, confirming that the choice of oat drinks is driven by environmental consciousness as much as by health reasons.

The analysis shows that packaging design was not confirmed to influence oat drink purchasing decisions ($t = 0.169$; $p = 0.866$). As oat beverages are viewed primarily as health-oriented products, consumers place greater emphasis on health benefits, nutritional information, and environmental claims than on visual packaging. This aligns with (Abebe A & Tefera B, 2017), who found that packaging attributes such as color and material did not significantly affect cereal purchases. Likewise, (Orth & Malkewitz, 2008) noted that packaging design often has only indirect effects. However, contrasting evidence from Xu Y et al. (2025) shows that packaging can influence purchase decisions in other beverage categories.

The analysis indicates that sensory attributes were not confirmed to influence oat drink purchasing decisions ($t = 1.874$; $p = 0.061$). As oat beverages are relatively new in the Indonesian market, strong preferences for taste, aroma, and texture have not yet developed. Consequently, consumers prioritize factors such as health benefits, label information, and environmental image. Similar results were found by (Saraswati et al., 2023), who reported that although taste and texture are appreciated in yogurt products, consumers still place greater importance on additional product information when making purchase decisions

The analysis presented in table 5 determined that the control variables, age and expenditure were not confirmed to influence the decision to purchase oat beverages. Specifically, age ($t = 0.009$; $p = 0.993$) showed no meaningful correlation, indicating that consumer preference for this product remains consistent

across various age groups. Similarly, the expenditure variable exhibited a ($t = 0.523$; $p = 0.601$), suggesting that purchase decisions do not differ between high and low expenditure consumers. Preferences appear consistent across demographic groups, supporting (Lee & Hanna, 1995) and (Faraoni et al., 2020), who note that psychological factors such as health orientation and sustainability values may outweigh demographic characteristics. Therefore, it can be concluded that consumer preference for oat beverages is predominantly shaped by the perceived functional benefits and environmental aspects of the product, rather than by age or financial capacity.

Of the five hypotheses tested, three (H3, H4, and H5) were confirmed, while H1 and H2 were not. Packaging design (H1) showed no effect ($t = 0.169$; $p = 0.866$), and sensory attributes (H2) were also not confirmed ($t = 1.874$; $p = 0.061$). In contrast, environmental perception (H3) with $t = 3.609$ ($p = 0.000$), health benefit perception (H4) with $t = 5.133$ ($p = 0.000$), and labeling (H5) with $t = 5.221$ ($p = 0.000$) were strongly confirmed at the 1% significance level. These findings demonstrate that consumers place greater importance on sustainability, health-related benefits, and clear product labeling than on packaging visuals or sensory characteristics when deciding to purchase oat drinks.

Managerial Implications

Based on these findings, producers and marketers of oat beverages in Indonesia are advised to focus their communication strategies on emphasizing health benefits and sustainability claims, as these factors have been shown to significantly influence consumer purchasing decisions. The results of this study also indicate that manufacturers should prioritize providing clear, accurate, and easily understandable information on product labels, because labeling emerged as the strongest determinant of consumer choice. Comprehensive explanations of nutritional content, ingredient composition, lactose free claims, and environmental certifications can strengthen consumer trust and enhance perceptions of functional value. In addition, companies need to communicate the health advantages of oat drinks more consistently, given that consumers increasingly seek products that support a healthy lifestyle. Communicating the product's sustainability attributes, such as its lower environmental footprint compared to cow's milk, is equally important because environmental perception plays a substantial

role in shaping purchase behavior. Since packaging design and sensory attributes were not confirmed as key determinants in this study, producers can allocate resources more efficiently by improving informational quality and value communication rather than focusing only on visual aesthetics. Overall, strengthening health related messages, enhancing the clarity of product information, and emphasizing sustainability narratives provide a strategic foundation for increasing consumer interest and preference for oat beverages in the Indonesian market.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The purchase decision process for oat milk consists of five stages: the need recognition stage, where consumers begin to feel the need to find beverage alternatives that are healthier and more environmentally friendly compared to cow's milk; the information search stage regarding oat milk, which is primarily obtained through social media; the alternative evaluation stage, where consumers compare oat milk with various other plant-based beverage options; the purchase decision stage, which is generally made quickly and often triggered by information on social media or recommendations from people close to them, with clear product labeling being one of the determining factors; and the post-purchase stage, where consumers feel satisfied because the product aligns with its health and environmental claims.

The decision to purchase oat drinks is significantly influenced by labeling, perceived health benefits, and perceived environmental friendliness. Labeling is the most powerful factor because consumers need clear, accurate, and reliable product information to reduce uncertainty before purchasing. Health perceptions also play an important role because oat drinks are considered healthier, lactose-free, and low in saturated fat. In addition, growing concern for sustainability issues means that perceptions of environmental friendliness also drive purchasing decisions. Meanwhile, packaging design and sensory attributes do not have a significant effect because consumers prioritize product information and benefits over packaging appearance or taste characteristics, so these two factors are not yet major considerations in the purchase of oat drinks.

Recommendations

Oat beverage producers must maintain brand image and product quality, particularly regarding health and environmental benefits, which have been shown to influence purchasing decisions significantly. This can be achieved by providing clear information through labels, promotions, and social media, as well as strengthening brand awareness. Although their influence is negligible, sensory attributes and packaging design should still be considered to enhance the appeal and consumption experience. This study has limitations in the homogeneity of respondents, primarily students from several faculties with relatively similar age, education level, and expenditure characteristics. Furthermore, the limited research location means that the results do not fully represent consumer behavior in other regions in Indonesia. The variables are also restricted, so they do not cover other aspects. Further research is recommended to expand the region's scope and the respondents' diversity, add research variables, and test the model on different market segments to obtain more comprehensive results.

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