

(Research/Review) Article

The Influence of Environmental Knowledge and Environmental Concern on Consumers' Purchase Intention Toward Sustainably Packaged Products

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Abstract: The purpose of this study is to investigate how consumers' purchase intentions for items with sustainable packaging are impacted by environmental awareness and concern. The study uses a survey method and a quantitative methodology. Information was gathered from 120 Alfamart customers in Bandar Lampung, Indonesia, who had previously bought goods using environmentally friendly packaging. Multiple linear regression was used to examine the data and determine how the variables related to one another. The findings demonstrate that purchasing intention is positively and significantly impacted by both environmental knowledge and environmental concern. Environmental concern has a greater impact than environmental knowledge among the two factors. These results suggest that customers' intentions to buy environmentally friendly products are influenced by both affective and cognitive variables. Customers are more likely to buy products with sustainable packaging if they have a greater awareness of environmental issues and a greater concern for environmental sustainability. This study adds to the body of knowledge on green consumer behavior, especially as it relates to retail customers in developing nations. It also offers useful recommendations for governments and merchants looking to encourage sustainable purchase.

Keywords: Environmental Concern; Environmental Knowledge; Green Consumer Behavior; Purchase Intention; Sustainable Packaging.

1. Introduction

Due in large part to rising consumption patterns that fuel the explosive growth of plastic trash, environmental degradation has become a global concern. Global plastic output has increased significantly over the past few decades, with packaging making up a sizable portion of all plastic use. Concerns about waste accumulation, environmental degradation, and resource depletion have grown as consumer goods continue to rely significantly on plastic packaging. As a result, sustainable packaging has become a viable way to lessen the negative effects of packaging materials on the environment while encouraging more environmentally friendly consumer habits (Drechsel et al., 2025).

Even if sustainably packaged goods are becoming more widely available, customers' desire to buy them is still somewhat low, especially in developing nations. Waste management-related environmental problems remain major obstacles in Indonesia. As one of the fastest-growing urban districts, Bandar Lampung continues to struggle with issues related to low public understanding of recycling procedures, trash management, and environmentally friendly product features. According to earlier research, customers with less environmental understanding may be less able to appreciate the advantages of sustainable packaging, which could impair their desire to buy ecologically friendly goods (Setiawati et al., 2025). Additionally, the persistence of unsustainable consumption practices has been facilitated by the poor execution of waste reduction projects.

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Sustainable consumption has been found to be significantly influenced by environmental concern in addition to environmental knowledge. An individual's awareness of environmental issues and readiness to act in an environmentally responsible manner are reflected in their level of environmental concern. However, research done in Bandar Lampung shows that there is still a low level of public involvement in waste management and environmental protection, as shown by inappropriate waste disposal methods and little support for environmental initiatives (Purwaningsih & Ishak, 2016; Ringle et al., 2021). These circumstances imply that, despite growing environmental concerns, consumers with lesser degrees of environmental care may be less likely to select products with sustainable packaging.

By giving customers access to eco-friendly goods, the retail industry contributes significantly to the promotion of sustainable consumption. Alfamart, one of the biggest retail chains in Indonesia, sells a variety of goods, some of which are packaged in recyclable, renewable, or biodegradable materials. Sustainable packaging techniques are being used by a number of international companies, including Unilever, Danone, Nestlé, and The Coca-Cola Company. However, consumers frequently lack sufficient knowledge about sustainable packaging features and may believe that sustainable products are more costly than conventional alternatives, so the availability of sustainable products does not necessarily translate into higher purchase intention (Rosenboom & Langer, 2022).

The impact of environmental awareness and concern on purchasing intention has been the subject of conflicting results in earlier research. While some studies reported weaker or indirect effects mediated by other variables like attitudes and emotions (Moslehpour et al., 2021; Drechsel et al., 2025), others found that both factors significantly increase consumers' intention to purchase environmentally friendly products (Boz et al., 2020; Hernomo & Chen et al., 2021; Petkowicz et al., 2024). Furthermore, there is still a dearth of study explicitly examining sustainably packaged goods in the context of contemporary Indonesian retail consumers. Thus, the purpose of this study is to investigate how environmental awareness and concern affect consumers' intentions to buy sustainably packaged goods among Alfamart customers in Bandar Lampung, Indonesia.

2. Literature Review

Environmental Knowledge

An individual's comprehension of environmental concerns, such as environmental conditions, their effects, and the significance of sustainable development, is referred to as environmental knowledge. Higher environmental knowledge makes consumers more conscious of the effects on the environment and more inclined to support eco-friendly products, which increases their propensity to buy sustainable goods (Petkowicz et al., 2024).

Environmental Concern

A person's awareness of environmental issues and readiness to take part in initiatives to preserve and enhance the environment are considered environmental concerns (Mongula & Masnita, 2023). When making purchases, consumers are encouraged to take into account environmental factors, such as product sustainability and eco-friendly production methods, as this concern displays a favorable attitude toward environmental preservation (Ningrum et al., 2024).

Purchase Intention

The willingness or intention of a consumer to buy a specific good or service is referred to as purchase intention. It shows how likely it is that customers will make purchases in the future. Purchase intention is a significant predictor of actual consumer behavior because, according to Gu et al. (2022), it develops through a process including beliefs, attitudes, and behavioral intentions (Kim & Lee, 2023).

Framework & Hypothesis

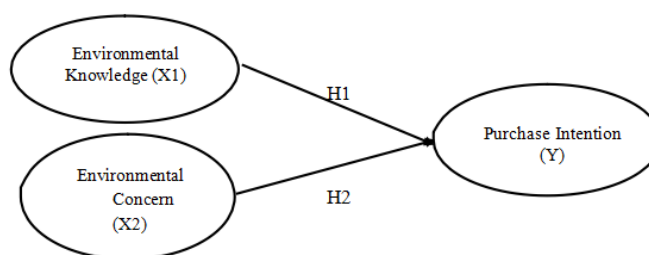


Figure 1. Conceptual Framework.

Customers' comprehension of environmental problems, environmental effects, and sustainable activities is reflected in their environmental knowledge. Customers who are more knowledgeable about the environment are more likely to understand the advantages of sustainable products and become more inclined to buy them. Prior research has demonstrated that consumers' purchasing intentions for environmentally friendly products are positively influenced by environmental knowledge (Hernomo & Christian, 2021; Alhally, 2020). Therefore, it is anticipated that consumers will be more inclined to buy products with sustainable packaging if they have a greater understanding of the environment.

H1: Alfamart customers in Bandar Lampung are more likely to purchase sustainably packaged goods when they are aware of the environment.

An individual's awareness of environmental issues and readiness to take actions that promote environmental preservation are referred to as environmental concern (Mongula & Masnita, 2023). Products that reduce environmental impact, especially those with sustainable packaging, are typically preferred by consumers who are more concerned about environmental issues. Research shows that consumers' intentions to buy sustainable and ecologically friendly items are strongly and favorably impacted by environmental concerns (Agus & Pramudana, 2017; Petkowicz et al., 2024). Therefore, it is anticipated that consumers who are more concerned about the environment will be more inclined to buy sustainably packaged goods.

H2: Alfamart customers in Bandar Lampung are more likely to purchase sustainably packaged goods when they are concerned about the environment.

3. Method

In order to investigate how customers' purchase intentions for sustainably packaged goods are impacted by environmental knowledge and concern, this study used a quantitative research approach grounded on the positivist paradigm. While secondary data was gathered from books, journal articles, reports, and other pertinent literature, primary data was gathered using an online survey given via Google Forms to Alfamart customers in Bandar Lampung (Sugiyono, 2023). Customers who had bought responsibly packaged goods at Alfamart made up the target demographic. Purposive sampling was used to pick respondents who met the following requirements: they had to be at least 17 years old, live in Bandar Lampung, have visited Alfamart at least twice in the previous 30 days, and be familiar with sustainable packaging. A sample size of 120 respondents was established based on the ratio of ten respondents per indicator, in accordance with Hair et al. (2014)'s guideline.

A standardized questionnaire using a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) was used to gather data (Sugiyono, 2023). While reliability was checked using Cronbach's Alpha, with a threshold value of 0.60, instrument validity was evaluated using factor analysis by looking at Kaiser-Meyer-Olkin (KMO), anti-image correlation, and factor loading values (Ghozali, 2021). IBM SPSS 21 was used for data analysis, which included t-tests, F-tests, multiple linear regression analysis, descriptive statistics, and the coefficient of determination (R²). The direct effects of environmental awareness and concern on purchase intention for sustainably packaged goods were investigated using multiple regression (Ghozali, 2021; Sugiyono, 2023).

Table 1. Operational Definition.

Variable	Definition	Indicators	Scale
Environmental Knowledge (X1)	The extent of consumers' understanding of environmental issues, sustainable packaging, and the environmental consequences of consumption behavior (Petkowicz et al., 2024).	1. Knowledge of sustainable packaging characteristics. 2. Knowledge of recycling processes. 3. Knowledge of environmental issues. 4. Knowledge of environmental symbols and labels. 5. Knowledge of environmentally responsible consumption.	Likert (1-5)

Variable	Definition	Indicators	Scale
Environmental Concern (X2)	The degree of awareness, attention, and commitment toward environmental protection and sustainability (Petkowicz et al., 2024).	1. Awareness of environmental conditions. 2. Willingness to protect the environment. 3. Sense of responsibility for environmental preservation. 4. Efforts to reduce environmentally harmful packaging use.	
Purchase Intention (Y)	Consumers' willingness and intention to purchase products with sustainable packaging in the future (Gu et al., 2022).	1. Intention to purchase sustainably packaged products. 2. Preference for sustainable packaging over conventional packaging. 3. Willingness to switch to environmentally friendly brands or products.	

4. Results and Discussion

Results

Instrument Test

Validity testing evaluates if an instrument measures the desired concept accurately, according to Ghozali (2021). All indicators demonstrated KMO, anti-image correlation, and factor loading values over 0.50 using factor analysis, suggesting that the measurement items are legitimate and appropriate for more examination. SPSS 21 was used for the analysis.

Table 2. Validity Test.

Variable	Item	KMO	Anti Image	Factor Loading	Result
Environmental Knowledge (X1)	X1.1	0,813	0,816	0,781	Valid
	X1.2		0,800	0,706	
	X1.3		0,809	0,763	
	X1.4		0,821	0,770	
	X1.5		0,814	0,813	
Environmental Concern (X2)	X2.1	0,776	0,803	0,744	
	X2.2		0,758	0,814	
	X2.3		0,751	0,843	
	X2.4		0,804	0,795	
Purchase Intention (Y)	Y1	0,675	0,649	0,830	
	Y2		0,712	0,776	
	Y3		0,674	0,805	

The measurement tool's consistency was evaluated through reliability testing. According to Ghozali (2021), if an instrument's Cronbach's Alpha value is higher than 0.60, it is deemed dependable. The findings demonstrate that every variable had Cronbach's Alpha values greater than 0.60, demonstrating the validity of the assessment items and their suitability for additional examination.

Table 3. Reliability Test.

Variable	Item	Cronbach Alpha	Result
Environmental Knowledge (X1)	X1.1	0,823	Reliable
	X1.2		
	X1.3		
	X1.4		
	X1.5		
Environmental Concern (X2)	X2.1	0,811	
	X2.2		
	X2.3		
	X2.4		
Purchase Intention (Y)	Y1	0,723	
	Y2		
	Y3		

Quantitative Analysis

The impacts of environmental awareness and concern on Alfamart customers' intentions to purchase sustainably packaged goods in Bandar Lampung were investigated using multiple linear regression analysis.

Table 4. Multiple Linear Regression.

		Coefficients			
		Unstd Coef		Stand Coef	
	Model	B	Std. Error	Beta	t
1	(Costant)	1,037	0,907		1,144
	Environmental Knowledge (X1)	0,241	0,052	0,389	4,652
	Environmental Concern (X2)	0,366	0,069	0,440	5,261

The estimated model based on the regression findings is:

$$PI = 1.037 + 0.389EK + 0.440EC$$

where PI represents purchase intention, EK denotes environmental knowledge, and EC represents environmental concern.

The findings show that purchasing intention is positively impacted by both environmental concern ($\beta = 0.440$) and environmental knowledge ($\beta = 0.389$). This implies that consumers are more inclined to buy products with sustainable packaging if they have greater environmental awareness and concern. Additionally, as demonstrated by its higher regression coefficient, environmental concern has a greater impact than environmental knowledge.

The significance level for the t-test was set at 0.05. The findings corroborate H1 by showing that environmental awareness has a positive and significant impact on purchasing intention ($t = 4.652$, $p < 0.001$). Similarly, purchasing intention is positively and significantly impacted by environmental concern ($t = 5.261$, $p < 0.001$), which supports H2. These results imply that consumers are more inclined to buy responsibly packaged goods when they have greater environmental awareness and concern. Environmental awareness is less influential than environmental care.

Table 5. T Test.

Hypothesis	t-value	p-value	Decision
H1: Environmental Knowledge positively affects Purchase Intention	4.652	0	Accepted
H2: Environmental Concern positively affects Purchase Intention	5.261	0	Accepted

The simultaneous impact of environmental knowledge and environmental concern on purchase intention was investigated using the F-test. The findings demonstrate that the regression model is significant ($F = 82.513$, $p < 0.001$), suggesting that customers' intentions to purchase sustainably packaged goods are influenced by both environmental knowledge and environmental concern. As a result, the suggested model is regarded as statistically sound.

Table 6. F Test.

Model	Sum Of Squares	df	Mean Square	F	Sig.
Regression	260,931	2	130,465	82,513	0,000 ^b
Residual	184,994	117	1,581		
Total	445,925	119			

The model's explanatory ability was evaluated using the coefficient of determination (R^2). A significant correlation between the independent and dependent variables is indicated by the results' R value of 0.765. According to the R^2 value of 0.585, environmental concern and knowledge account for 58.5% of the variance in purchase intention, with other factors not included in the model accounting for the remaining 41.5%.

Table 7. R^2 Test.

Model	R	R Square	Adjusted R Square	Std. Error of the estimate
1	0,765 ^a	0,585	0,578	125,744

Discussions

The Effect of Environmental Knowledge on Purchase Intention

The findings show that consumers' purchase intentions for sustainably packaged goods are positively and significantly impacted by environmental knowledge ($\beta = 0.389$; $t = 4.652$; $p < 0.001$). According to this research, people are more inclined to buy products with eco-friendly packaging if they have a better understanding of environmental issues, recycling procedures, and sustainable packaging. Additionally, descriptive analysis reveals that most respondents had a high degree of environmental knowledge, especially with regard to environmental problems including recycling, pollution, and plastic waste.

The consumer behavior theory, which highlights the influence of cognitive aspects on purchase decisions, is supported by these findings (Solomon, 2020). Customers who are knowledgeable about environmental issues typically have more favorable opinions of sustainable items and are more likely to make a purchase. The findings are in line with earlier research by Hernomo & Christian (2021) and Alhally (2020), which discovered that consumers' propensity to buy environmentally friendly products is greatly influenced by their level of environmental knowledge.

The Effect of Environmental Concern on Purchase Intention

The results show that purchase intention for sustainably packaged goods is favorably and significantly impacted by environmental concern ($\beta = 0.440$; $t = 5.261$; $p < 0.001$). This suggests that consumers are more inclined to select products that reduce environmental impact if they are more concerned about environmental issues. According to descriptive results, respondents had a very high level of environmental concern, which reflects their deep awareness of environmental issues and sense of obligation to protect the environment.

This finding is consistent with consumer behavior theory, which emphasizes the significance of emotional elements like emotions and anxiety in shaping customer behavior (Keller, 2022). Customers that care more about the environment are more inclined to make purchases that promote sustainable consumption. The results are consistent with earlier research by Petkowicz et al. (2024) and Maichum et al. (2016), which found that green purchasing intention is significantly predicted by environmental concern.

5. Conclusions

The study concludes that among Alfamart customers in Bandar Lampung, consumers' purchasing intentions toward sustainably packaged goods are significantly positively impacted by both environmental knowledge and environmental concern. While consumers who are more concerned about the environment are more inclined to support sustainable consumption through their purchases, consumers who are more knowledgeable about the environment are more likely to assess and select environmentally friendly products. This emphasizes how crucial cognitive and emotive elements are in influencing the intention to make green purchases. However, the cross-sectional design and small sample size of this study, which is restricted to a single retail setting (Alfamart in Bandar Lampung), may limit how broadly the

results may be applied. In order to provide deeper insights into customers' sustainable purchasing behavior, future research is advised to adopt longitudinal or mixed-method techniques, extend the sample to other areas and retail sectors, and incorporate additional variables like price sensitivity or environmental attitude.

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