



Perceived Environmental Knowledge and Ease of Use: Keys to Increasing Purchase Intention of Sustainable Packaging

Maria Augustin Lopes Amaral^{✉1}, Anggelina Delviana Klau², Adrianus Ketmoen³, Engelbertus G. Ch. Watu⁴, Apryanus Fallo⁵

Faculty of Economics and Business, Widya Mandira Catholic University, Kupang, Indonesia^{1,3,4,5}

Faculty of Economics and Business, Timor University, Kefa, Indonesia²

Info Article

Article History:

Submitted 15 October 2024

Revised 27 February 2025

Accepted 12 March 2025

Keywords:

Ease of Use, Environmental Concern, Purchase Intention, Sustainability, Trust

Abstract

In the modern era, environmental issues have become a global concern due to the rising impacts of pollution and climate change. One solution is sustainable packaging to reduce waste and environmental damage. This study examines the relationship between environmental awareness, perceived environmental knowledge, perceived ease of use, and purchase intention, with trust in sustainable packaging as a mediating variable. The novelty lies in adding trust in sustainable packaging and utilizing local potential, namely lontar materials, as eco-friendly alternatives to recycled cloth, paper, and plastic. Using the Theory of Planned Behavior, a quantitative approach, and purposive sampling, the study collected 192 samples, with 170 valid responses. Results show that purchase intention is influenced by trust in sustainable packaging, environmental awareness, environmental knowledge, and ease of use. Trust is shaped by environmental awareness, environmental knowledge, and ease of use. Trust mediates the effect of environmental knowledge and ease of use on purchase intention but does not mediate the effect of environmental awareness. These findings are valuable for producers using lontar-based packaging, suggesting they target environmentally conscious consumers who value knowledge and usability.

Pengetahuan Lingkungan yang Dirasakan dan Kemudahan Penggunaan: Kunci untuk Meningkatkan Niat Membeli Kemasan Berkelanjutan

Abstrak

Pada era modern, isu lingkungan telah menjadi perhatian global seiring meningkatnya dampak negatif polusi dan perubahan iklim. Salah satu solusi yang ditawarkan adalah penggunaan kemasan berkelanjutan untuk mengurangi limbah dan dampak lingkungan. Penelitian ini bertujuan untuk mengetahui hubungan antara kesadaran lingkungan, persepsi pengetahuan lingkungan, persepsi kemudahan penggunaan, dan minat beli, dengan kepercayaan pada kemasan berkelanjutan sebagai variabel intervening. Hal baru dari penelitian ini adalah penambahan variabel kepercayaan pada kemasan berkelanjutan dan pemanfaatan potensi lokal berupa bahan baku lontar sebagai alternatif ramah lingkungan dibandingkan kain daur ulang, kertas, dan plastik. Teori yang digunakan adalah Theory of Planned Behavior, dengan pendekatan kuantitatif dan teknik purposive sampling yang menghasilkan 192 sampel dan 170 responden yang kembali untuk mengisi kuesioner. Hasil penelitian menunjukkan bahwa minat beli dipengaruhi oleh kepercayaan pada kemasan berkelanjutan, kesadaran lingkungan, pengetahuan lingkungan, dan kemudahan penggunaan. Kepercayaan pada kemasan berkelanjutan dipengaruhi oleh kesadaran lingkungan, pengetahuan lingkungan, dan kemudahan penggunaan. Kepercayaan ini memediasi pengaruh pengetahuan lingkungan dan kemudahan penggunaan terhadap minat beli, tetapi tidak memediasi pengaruh kesadaran lingkungan terhadap minat beli. Hasil ini bermanfaat bagi produsen yang menggunakan lontar sebagai kemasan ramah lingkungan, dengan mempertimbangkan segmen konsumen yang peduli terhadap lingkungan, memiliki pengetahuan, dan mengutamakan kemudahan penggunaan.

JEL Classification: L26, M13, O33, C30, D22

How to Cite: Amaral, M. A. L., Klau, A. D., Ketmoen, A., Watu, E. G. Ch., & Fallo, A. (2025). Perceived Environmental Knowledge and Ease of Use: Keys to Increasing Purchase Intention of Sustainable Packaging. *JDM (Jurnal Dinamika Manajemen)*, 16(1), 107-123.

✉Correspondence Address

Institutional address: Widya Mandira Catholic University, Kupang, Indonesia
Email: maria_amaral@unwira.ac.id

INTRODUCTION

In this modern era, environmental issues are a major global concern as the negative impacts of pollution and climate change increase. One proposed solution is the use of sustainable packaging, which is designed to reduce waste and environmental impact. Sustainable packaging can include materials that are recyclable, biodegradable, or that use eco-friendly materials. However, the adoption of sustainable packaging is highly dependent on several psychological and perceptual factors, such as concern for the environment, knowledge of the environment, and ease of use of the packaging (Downey, 2020; UNEP, 2020).

In Indonesia, despite increasing awareness of environmental issues, the adoption of sustainable packaging is still low compared to developed countries. Key barriers include a lack of information on the benefits of sustainable packaging and challenges in providing easy-to-use and affordable packaging (Gunawan et al., 2022). Research shows that consumers' knowledge of the environmental impact and ease of use of sustainable packaging strongly influences their purchasing decisions (Norton et al., 2023; Lopes Amaral et al., 2024).

In East Nusa Tenggara (NTT) Province, there is significant local potential in the development of sustainable packaging through the use of lontar raw materials. Lontar (palmyra palm), which is a type of palm tree that grows widely in NTT, has characteristics that make it an ideal packaging material. Packaging from palmyra leaf can not only be used for a long period of time thanks to the durability of the material, but is also environmentally friendly as it can be decomposed and even composted into organic fertilizer. Utilizing lontar as a sustainable packaging material not

only utilizes abundant local resources but also supports circular economy practices by reducing waste and improving sustainability (Hanifa et al., 2024).

Previous research has identified that environmental concern is positively related to purchase intention for green products. Lopes et al. (2024) showed that consumers who are more concerned about the environment tend to have higher purchase intentions for green products. Similarly, Anquez et al. (2022) and Rakesh and Valsalachandran (2024) found that perceived environmental knowledge can increase purchase intention through a better understanding of the product's environmental impact. In addition, perceived ease of use plays an important role in purchasing decisions, with consumers who find eco-friendly packaging easy to use more likely to purchase the product. However, trust in sustainable packaging is often overlooked as an important intervening variable in this relationship. Several efforts have been made to improve this perception, including educational campaigns and innovations in packaging design, but challenges remain (Boz et al., 2020; Brennan et al., 2020).

This research offers novelty by integrating trust in sustainable packaging as an intervening variable in the relationship model between environmental concern, perceived environmental knowledge, and perceived ease of use on purchase intention. By identifying how trust in sustainable packaging mediates the relationship between these factors, this research is expected to provide new insights into how marketing strategies and packaging policies can be more effective in increasing the adoption of environmentally friendly products in Indonesia.

In the face of increasingly pressing environmental challenges, understanding the influence of psychological and per-

ceptual factors on the purchase intention of sustainable packaging is key to driving changes in consumer behavior. This research is expected to make a significant contribution in designing better strategies to promote eco-friendly packaging, as well as increasing awareness and adoption of sustainable products in the local market.

The influence of trust in sustainable packaging and purchase intention

Trust in Sustainable Packaging refers to the extent to which consumers trust the sustainability claims of product packaging (Boz et al., 2020; Amin & Tarun, 2021; Khan et al., 2022; Sulfi et al., 2023). Purchase intention is the consumer's intention to buy a product based on various factors, including trust in the packaging (Kim and Lee, 2023; Tufail et al., 2023). Consumers who believe that product packaging is truly environmentally friendly tend to have higher purchase intentions for these products. Trust in packaging sustainability claims can increase consumer motivation to buy products that claim sustainability (Akenji & Bengtsson, 2014; Downey, 2020)

H1: Trust in sustainable packaging affect purchase intention.

The effect of environmental concern on purchase intention

Environmentally conscious individuals often consider environmental impacts when purchasing products. Awareness has an influence on purchase intention (Wang & Zhang, 2021; Kim & Lee, 2023). Interest is considered an important factor in product purchase decisions (Saari et al., 2021). Therefore, individuals tend to choose safe packaging because they may perceive it as a safer, healthier, and less damaging choice for the environment and ecosystem (Lan et al., 2023). Consumers who care about the environment tend to

use more environmentally friendly products compared to those who are less concerned (Ogiemwonyi et al., 2023). The high level of consumer concern for environmental and social issues and functional and environmentally friendly product characteristics are the main drivers of sustainable purchasing behavior (De Canio et al., 2020). In addition, Chen et al. (2022) stated that concern for the environment is a significant predictor of intention to perform environmentally friendly behavior.

H2: Environmental concern affects purchase intention

The effect of perceived ease of use on purchase intention

Ease of use refers to the extent to which customers can easily handle and dispose of the packaging after use (Davis, 1989; Kurniawan & Tankoma, 2023). Several studies have shown that under initiatives such as guaranteed refund systems, customers are often reluctant to return products to retailers and prefer to throw them in the trash. Many studies have underlined the importance of simple packaging design and packaging materials that are recyclable and easy for consumers to use. One of the main objectives of packaging design is to make the process of use as easy as possible (Nugraha et al., 2021; Zhang et al., 2023).

H3: Perceived ease of use affects purchase intention.

The effect of perceived environmental knowledge on purchase intention

Knowledge reflects the cognitive dimension of humans, knowledge about the environment is considered a crucial element that influences individuals to carry out sustainable consumption (Indriani et al., 2019). Previous research indicates that knowledge and perceptions of environmental issues can influence consumer

intentions to choose environmentally friendly products (Wang & Zhang, 2021). Escario et al. (2020) argue that deep environmental knowledge is necessary to take appropriate steps to protect the environment, and individuals with higher environmental knowledge tend to exhibit more sustainable purchasing behavior. Liobikiene and Poškus (2019) also found that environmental knowledge has a positive impact on consumer intention to buy environmentally friendly products.

H4: Perceived environmental knowledge affects purchase intention.

The effect of environmental concern on trust in sustainable packaging

Consumers with high levels of environmental concern are often more cautious and thorough in evaluating sustainability claims from packaging (Norton et al., 2023). They expect transparency and reliability from products and packaging that claim to be environmentally friendly. If the packaging meets the expected standards, such consumers will be more likely to trust the claims. Conversely, if sustainability claims do not meet their expectations, consumers with high environmental concerns may feel disappointed and trust the packaging less (Escario et al., 2020; Lopes et al., 2024; Maduku, 2024). Therefore, the relationship between environmental concern and trust in green packaging is often influential.

H5: Environmental concern affects trust in sustainable packaging.

The effect of perceived environmental knowledge on trust in sustainable packaging

Perceived environmental knowledge plays an important role in shaping trust in packaging that claims sustainability (Liobikiene & Poškus, 2019). Consumers with better environmental knowledge tend to

have higher trust in packaging sustainability claims, as they can better assess whether the packaging matches their knowledge and expectations. Existing research shows that high environmental knowledge can increase consumer trust in green packaging, which is important for manufacturers to consider in sustainable packaging marketing strategies (De Canio et al., 2020; De Canio, 2023).

H6: Perceived environmental knowledge affects trust in sustainable packaging

The effect of perceived ease of use on trust in sustainable packaging

Perceived ease of use can influence consumer trust in packaging that claims sustainability. If green packaging is designed to be easy to use, consumers are more likely to believe in its sustainability claims. Several studies show that these two variables have an influence and show that ease of use is an important factor in shaping trust in environmentally friendly packaging (Kurniawan & Tankoma, 2023; Sari et al., 2023; Zhang et al., 2023).

H7: Perceived perceived ease of use affects trust in sustainable packaging

Trust in sustainable packaging is able to moderate the influence of environmental concern, perceived environmental knowledge, perceived ease of use on purchase intention.

Environmental concern can influence purchase intention, but this influence may be stronger if consumers have high trust in packaging that claims sustainability. Trust in sustainable packaging can strengthen the relationship between environmental concern and purchase intention (Amin & Tarun, 2021; Chen et al., 2022).

Perceived environmental knowledge can influence purchase intention, and this influence can be stronger if consumers believe that packaging is truly envi-

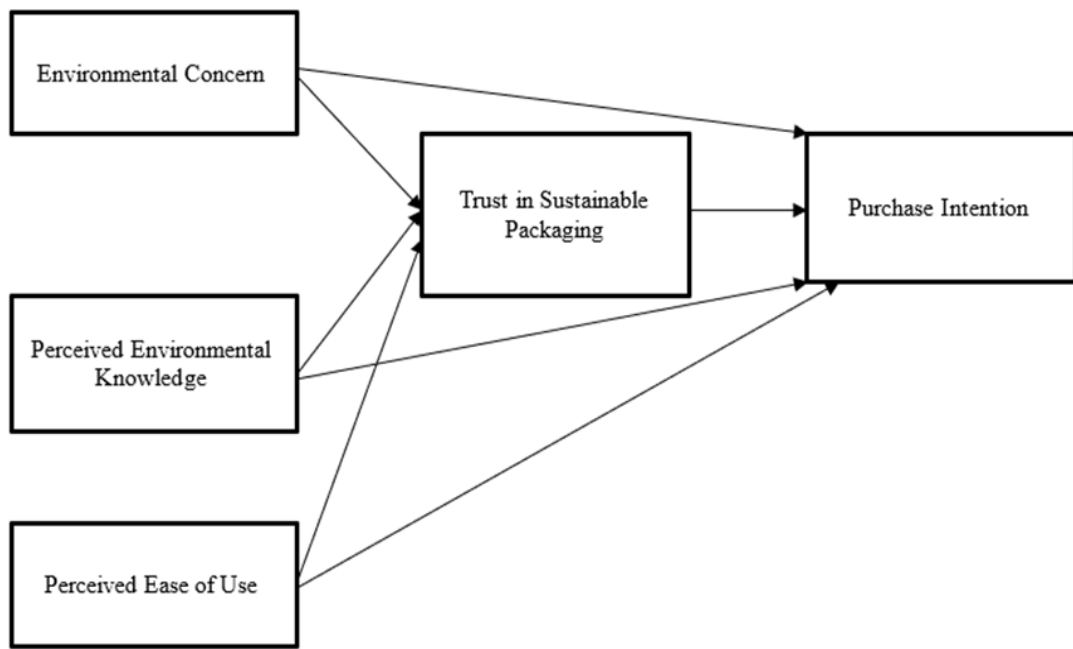


Figure 1. Research Model

ronmentally friendly. Trust in sustainable packaging can strengthen the influence of environmental knowledge on purchase intention (Lee, 2020). The ease of use of sustainable packaging affects purchase intentions, and this influence can be strengthened if consumers believe the packaging's sustainability claims. Trust in sustainable packaging can increase the impact of ease of use on purchase intention (James & Kurian, 2021; Reddy et al., 2023; Qalati et al., 2024). Trust in sustainable packaging plays an important role in moderating the effect of environmental concern, perceived environmental knowledge, and ease of use on purchase intention. High trust in packaging sustainability claims can strengthen the relationship between these factors and product purchase intention (Amin & Tarun, 2021; Lan et al., 2023).

H8: Trust in sustainable packaging is able to moderate the influence of environmental concern on purchase intention.

H9: Trust in sustainable packaging is able to moderate the influence of perceived

environmental knowledge on purchase intention.

H10: Trust in sustainable packaging is able to moderate the influence of perceived ease of use on purchase intention.

Figure 1 shows that purchase intention in this study is influenced by variables consisting of: trust in sustainable packaging, environmental concern, perceived environmental knowledge, and perceived ease of use. This study consists of 10 hypotheses where 7 hypotheses are direct effects and 3 hypotheses are indirect effects.

METHOD

This study adopts a quantitative research design with a survey approach to explore the influence of sustainable packaging on consumer purchasing behavior. The research method involves collecting primary data through a questionnaire designed to measure key variables such as environmental concern, perceived environmental knowledge, ease of use, and purchase in-

tention, with trust in sustainable packaging as an intervening variable. The population of this study consists of individuals who are concerned about the environment and are involved in the environmental community. The focus on this population was chosen because they are considered to have a higher awareness of environmental issues and are more likely to behave in accordance with sustainability values. The research sample consisted of 192 members of the environmental community who were purposively selected to ensure that participants had an understanding of and commitment to environmental issues. 192 research samples were obtained from 24 indicators multiplied by 8. According to Hair et al. (2019) guidelines, the number of indicators should be multiplied by 5-10. The number 8 was chosen because it is the middle value of the range 5-10. Of these, 170 questionnaires were returned and met the criteria for further analysis. Data collection techniques were conducted through an online questionnaire distributed within the environmental community through social media, email, and relevant community forums. The questionnaire was designed to measure various variables, including environmental concern, knowledge of sustainability, ease of use of green products, purchase intention, and trust in sustainable packaging. Measurements were made using a five-point Likert scale, and the collected data were analyzed using Structural Equation Modeling Partial Least Squares (SEM-PLS) to evaluate the relationship between the research variables as well as the role of trust in sustainable packaging as an intervening variable (Hair et al., 2020; Sarstedt et al., 2017). Indicators for the environmental concern variable include items adapted from previous literature such as De Canio et al. (2020), while indicators for environmental knowledge were adapted from Santos et al. (2021). Ease of use was measured

based on indicators developed from a study by (Davis, 1989), trust in sustainable packaging (Lee, 2020; Zhang et al., 2023) and purchase intention is measured using indicators adapted from Santos et al. (2021). The collected data were analyzed using SEM-PLS software to determine the strength and direction of the relationship between these variables and identify the role of trust in sustainable packaging in mediating the influence of the independent variables on purchase intention.

The reason researchers chose the SEM-PLS analysis tool is due to its superior ability to handle small sample sizes, non-normal data, and complex models. PLS is also more suitable for exploratory research with predictive purposes, such as the study conducted on sustainable packaging purchase intentions (Hair et al., 2020). Unlike other analysis tools, SEM Amos is more commonly used for confirmatory research that focuses on testing existing theories and is better suited for large sample sizes.

RESULT AND DISCUSSION

Based on the data in Table 1, it shows that the majority in this study are female as many as 136 people (80%), aged 26-35 years as many as 89 people (52%), have a bachelor's degree as many as 139 people (82%), work Private employees as many as 66 people (39%), income per month Rp 3,000,001-5,000,000 as many as 68 people (40%), choose Reduce the use of single-use plastic to reduce environmental impacts as many as 84 people (49%), on average already know the existence of packaging made from palmyra leaf and as many as 136 people choose in the future will use packaging from palmyra leaf raw materials.

Structural Model

In this model, environmental con-

Table 1. Respondent Description

Demographics	Frequency	Percentage
Gender		
Men	34	20%
Women	136	80%
Age		
18-25 years	58	34%
26-35 years	89	52%
36-45 years	12	7%
46-55 years	7	4%
>55 years	4	2%
Last Education		
Senior High School	29	17%
Bachelor's Degree	139	82%
Masters/PhD	2	1%
Occupation		
Student	29	17%
Government employees	30	18%
Private employees	66	39%
Entrepreneur	36	21%
Housewife	9	5%
Income		
<Rp3,000,000	29	17%
IDR 3,000,001-5,000,000	68	40%
IDR 5,000,001 - IDR 10,000,000	34	20%
IDR 10,000,001 - IDR 20,000,000	14	8%
> IDR 20,000,000	25	15%
Done to reduce the environmental impact of daily activities		
Recycle waste	19	11%
Use environmentally friendly products	59	35%
Reduce the use of single-use plastic	84	49%
Use public transportation or other vehicles	8	5%
Other		
Do you know about environmentally friendly lontar packaging?		
Yes	159	94%
No.	11	6%
Which packaging do you choose for the future		
Cloth	20	12%
Plastic	5	3%
Paper	9	5%
Lontar	136	80%

Source: Data Processed (2024)

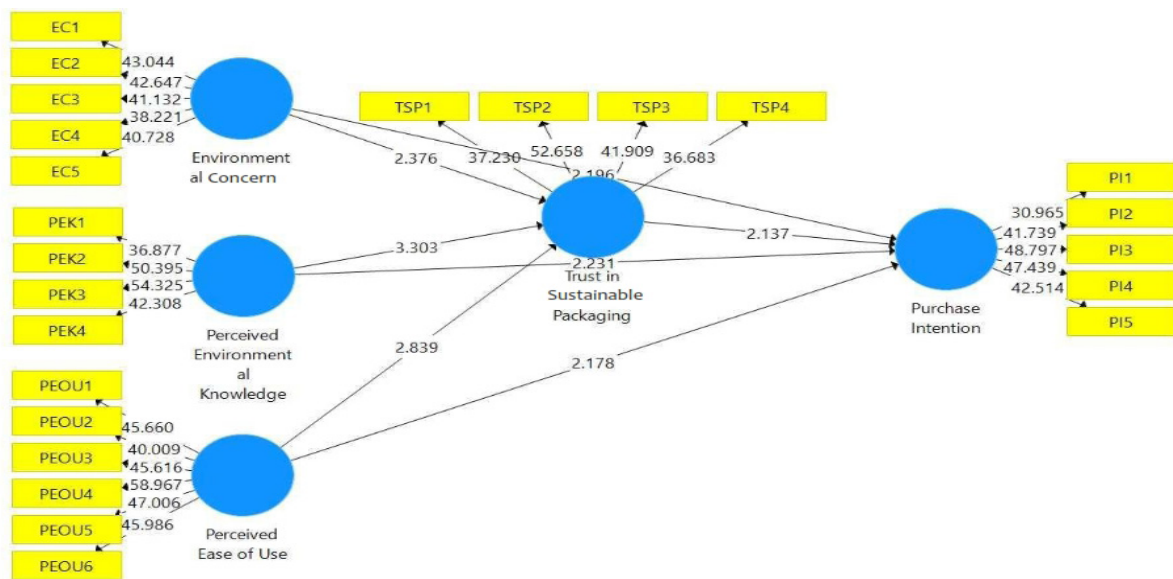


Figure 2. Structural Model

cern, perceived environmental knowledge and perceived ease of use serve as independent variables, while purchase intention serves as the dependent variable. Trust in sustainable packaging acts as an intervening variable. An indicator is considered to have good convergent validity if its outer loading value is more than 0.50. Based on the data in Figure 2, there are no variable indicators that show an outer loading value below 0.50. Once the indicators are considered valid, they can be used in further research and applications.

Table 2 indicates that the average variance extract (AVE) value of each indicator can be used to assess discriminant validity, apart from the cross-loading value. To ensure a viable model, the AVE value must be more than 0.50. The data in Table 2 shows that the AVE for the factors of environmental concern, perceived environmental knowledge, perceived ease of use, trust in sustainable packaging and purchase intention are all more than 0.50, so each variable has strong discriminant validity.

Table 3 reveals that each indicator has the maximum loading value for the latent component, fulfilling the necessary

conditions. Discriminant validity is also assured as the square root of the AVE of each component is higher compared to other relationships.

The multicollinearity test parameter is measured by the VIF value, which is limited to 5.0 in this study. The results indicate that multicollinearity is not a problem, allowing the continuation of the study. The R-squared value is used to measure the extent to which exogenous variables influence the dependent variable. Table 4 shows that the R² values for trust in sustainable packaging and purchase intention are 0.482 and 0.439, respectively.

This shows that the variable trust in sustainable packaging is 48.2% influenced by environmental concern, perceived environmental knowledge, perceived ease of use. 43.9% of the characteristics that influence purchase intention are related to environmental concern, perceived environmental knowledge, perceived ease of use, and trust in sustainable packaging. Table 5 shows that the Q² value can be used to assess the accuracy of the forecast. If Q² is greater than zero, the model is considered to have strong prediction accuracy; if Q² is less than zero, the model

Table 2. Validity and Reliability Test

Variable	Indicator	Outer Loading	Cronbach Alpha	CR	AVE
Environmental Concern	EC1	0,880	0,927	0,945	0,775
	EC2	0,883			
	EC3	0,878			
	EC4	0,879			
	EC5	0,881			
Perceived Environmental Knowledge	PEK1	0,868	0,902	0,932	0,773
	PEK2	0,888			
	PEK3	0,885			
	PEK4	0,875			
Perceived Ease of Use	PEOU1	0,884	0,943	0,955	0,778
	PEOU2	0,877			
	PEOU3	0,888			
	PEOU4	0,874			
	PEOU5	0,885			
	PEOU6	0,883			
Trust in Sustainable Packaging	TSP1	0,870	0,900	0,930	0,768
	TSP2	0,883			
	TSP3	0,868			
	TSP4	0,886			
Purchase Intention	PI1	0,856	0,924	0,943	0,766
	PI2	0,877			
	PI3	0,882			
	PI4	0,887			
	PI5	0,876			

Source: Data Processed (2024)

Table 3. Discriminant Validity

Variable	Environmental Concern	Perceived Ease of Use	Perceived Environmental Knowledge	Purchase Intention	Trust in Sustainable Packaging
Environmental Concern	0,880				
Perceived Ease of Use	0,552	0,882			
Perceived Environmental Knowledge	0,557	0,589	0,879		
Purchase Intention	0,560	0,560	0,575	0,875	
Trust in Sustainable Packaging	0,570	0,589	0,612	0,578	0,876

Source: Data Processed (2024)

Table 4. R-Square

	R-Square	Adjusted R-Square
Purchase Intention	0,449	0,439
Trust in Sustainable Packaging	0,492	0,482

Source : Data Processed (2024)

Table 5. Prediction Accuracy Test (Q2)

	SSO	SSE	Q2 (=1-SSE/SSO)
Environment Concern	850,000	850,000	
Perceived Ease of Use	1020,000	1020,000	
Perceived Environmental Knowledge	680,000	680,000	
Purchase Intention	850,000	553,587	0,349
Trust in Sustainable Packaging	680,000	435,399	0,360

Source: Data Processed (2024)

Table 6. Path Coefficient

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values	Result
	(O)	(M)	(STDV)	(O/STDEV)		
Trust in Sustainable Packaging Use -> Purchase Intention	0,267	0,275	0,108	2,483	0,007	Accepted
Environmental Concern -> Purchase Intention	0,246	0,246	0,095	2,594	0,005	Accepted
Perceived Environmental Knowledge -> Purchase Intention	0,281	0,276	0,099	2,833	0,002	Accepted
Perceived Ease of Use -> Purchase Intention	0,246	0,246	0,095	2,594	0,005	Accepted
Environmental Concern -> Trust in Sustainable Packaging	0,245	0,244	0,103	2,376	0,009	Accepted
Perceived Environmental Knowledge -> Trust in Sustainable Packaging	0,320	0,318	0,097	3,303	0,001	Accepted

Perceived Ease of Use -> Trust in Sustainable Packaging	0,263	0,267	0,092	2,839	0,002	Accepted
Environmental Concern -> Trust in Sustainable Packaging -> Purchase Intention	0,053	0,058	0,044	1,209	0,114	Rejected
Perceived Ease of Use -> Trust in Sustainable Packaging -> Purchase Intention	0,057	0,059	0,033	1,721	0,043	Accepted
Perceived Environmental Knowledge -> Trust in Sustainable Packaging -> Purchase Intention	0,070	0,071	0,042	1,652	0,050	Accepted

Source: Data Processed (2024)

is considered to have weak prediction accuracy. Table 5 shows that trust in sustainable packaging and purchase intention are variables with Q2 greater than 0. To evaluate research ideas and decide which ones to accept or reject, Smart-PLS is used. Hypotheses can be accepted if the p-value is less than 0.05 and the t-value of the path coefficient is greater than 1.645 (one-tailed). According to Table 6, the accepted hypotheses are as follows: trust in sustainable packaging and purchase intention ($t=2.483$ and $p=0.007$); environmental concern and purchase intention ($t=2.594$ and $p=0.005$); perceived environmental knowledge and purchase intention ($t=2.833$ and $p=0.002$); perceived ease of use and purchase intention ($t=2.594$ and $p=0.005$); environmental concern and trust in sustainable packaging ($t=2.376$ and $p=0.009$); perceived environmental knowledge and trust in sustainable packaging ($t=3.303$ and $p=0.001$); perceived ease of use and trust in sustainable packaging ($t=2.839$ and $p=0.002$); trust in sustainable packaging is able to mediate the

effect of perceived environmental knowledge on purchase intention ($t=1.652$ and $p=0.050$); trust in sustainable packaging is able to mediate the effect of perceived ease of use on purchase intention ($t=1.721$ and $p=0.043$). The rejected hypothesis is that trust in sustainable packaging is not able to mediate the effect of environmental concern on purchase intention ($t=1.209$ and $p=0.114$).

DISCUSSION

Trust in sustainable packaging has an effect on purchase intention, the results of this study are in line with research Akenji and Bengtsson (2014) and Downey (2020). Consumers who believe sustainability claims about packaging are more likely to buy the product. Trust in sustainable packaging reduces doubts and increases confidence that choosing the product is an environmentally responsible decision.

Environmental concern affects purchase intention, the results of the study are in line with research Wang and Zhang (2021) and Kim and Lee (2023) showed a

significant positive effect between environmental concern and purchase intention for products with palmyra palm packaging. This finding suggests that consumers who are more concerned about environmental issues tend to be more interested in buying products that use palmyra palm fiber packaging, which is known as an environmentally friendly and sustainable packaging material (Chen et al., 2022)

Consumers with high environmental concerns often have a preference for products that are not only sustainable in terms of their contents but also in terms of their packaging. Palmyra packaging, as a more environmentally friendly alternative to plastic-based packaging, is becoming a more attractive option for consumers concerned about the environmental impact of plastic waste (De Canio, 2023; Lopes Amaral et al., 2024).

Consumers who have good environmental knowledge are more likely to purchase products with palmyra leaf packaging because they understand the sustainability benefits of the packaging. This knowledge helps consumers make more informed and values-based decisions about sustainability (De Canio et al., 2020; De Canio, 2023)

Perceived ease of use has an effect on purchase intention, the results of this study are in line with research (Escario et al., 2020; Lopes et al., 2024; Maduku, 2024). Consumers tend to be more interested in buying products that they find easy to use. Ease of use is often associated with a positive user experience, which can increase consumer trust and interest in purchasing the palmyra packaging. Products that are easy to use reduce consumer concerns about complexity and increase comfort, which in turn can drive purchasing decisions (Zuelseptia et al., 2018).

Consumers with a high level of environmental awareness tend to be more critical and rigorous in assessing sustainability claims, including palmyra packaging.

They look for evidence to support claims that the packaging is truly sustainable and not just a marketing gimmick. High environmental concerns encourage consumers to check the credibility of claims and ensure that products meet sustainability standards Liobikiene and Poškus (2019).

Perceived environmental knowledge has an effect on trust in sustainable packaging, the results of the study are in line with research De Canio (2023) and De Canio et al. (2020) Consumers with high environmental knowledge tend to have greater trust in the sustainability claims of packaging. They are better able to evaluate and understand information about sustainable packaging, such as Palmyra packaging, and assess whether the claims are valid and actually meet sustainability standards.

Trust in sustainability can strengthen the influence of environmental knowledge on purchase intentions. When consumers believe that claims about sustainability are legitimate and trustworthy, the environmental knowledge they have will be more effective in influencing their purchase intentions (Gorton et al., 2021). These beliefs help connect environmental knowledge with concrete actions, such as the intention to purchase sustainable products (Lee, 2020). Consumers who have good environmental knowledge tend to have stronger purchase intentions for products they perceive as environmentally friendly. However, trust in sustainability claims increases the strength of this relationship. High trust strengthens consumers' belief that the products they choose actually meet the sustainability standards they know about (Chen & Chang, 2012; Nguyen et al., 2024).

Trust in sustainable packaging can also moderate the relationship between ease of use and purchase intention. When packaging is well-designed and easy to use, consumer trust in sustainability can strengthen the impact of ease of use on pur-

chase intention (Petkowicz et al., 2024). If consumers feel that the packaging is easy to use and believe that the packaging is sustainable, they will be more likely to consider a purchase. Ease of use of packaging can increase purchase intentions if consumers also believe the sustainability claims of the packaging (Duarte et al., 2024). Belief in sustainability ensures that consumers see ease of use as part of the overall sustainability package, which in turn strengthens their intention to purchase (Esvandiari, 2023).

The results show that trust in sustainable packaging is not able to moderate the effect of environmental concern on purchase intention. The result of this study contradict research (Amin and Tarun, 2021; Chen et al., 2022). Environmental concern and purchase intention in the context of palmyra packaging in East Nusa Tenggara (NTT) require more in-depth analysis. First, people with high environmental concerns in NTT are often more motivated to choose products that use traditional packaging such as lontar, regardless of trust in sustainability claims made by producers. In this context, environmental concerns serve as the main driver for choosing more environmentally friendly products, so that trust in sustainable packaging is no longer a determining factor (Adiputra & Aolieria, 2023; Maduku, 2024). The knowledge aspect of Palmyra packaging is also very important. People who are educated about the benefits of using this traditional packaging tend to have a better understanding of the environmental impact of modern packaging. This knowledge encourages them to prefer lontar packaging, which is considered more sustainable and environmentally friendly.

The majority in this study belonged to the environmental care community with an undergraduate education background of 139 people. People with higher education may be more critical in

assessing sustainability claims and more likely to seek information about palmyra packaging. They have better access to information sources that support sustainable purchasing decisions.

Finally, product-specific characteristics and the cultural context in NTT can influence consumer response. In a region that values tradition, lontar packaging is not only seen from its functional aspect, but also from its cultural value and sustainability. With this understanding, people may be more inclined to choose products that use lontar packaging, as they already have in-depth knowledge of its benefits and traditional values.

CONCLUSION AND RECOMMENDATION

This study aims to examine the relationship between environmental concern, perceived environmental knowledge, and perceived ease of use on purchase intention, with trust in sustainable packaging as an intervening variable. The research findings successfully answer the research objectives, showing that purchase intention can be influenced by trust in sustainable packaging, environmental concern, perceived environmental knowledge, perceived ease of use. Trust in sustainable packaging is influenced by environmental concern, perceived environmental knowledge and perceived ease of use. Trust in sustainable packaging is able to mediate the effect of perceived environmental knowledge on purchase intention, trust in sustainable packaging is able to mediate the effect of perceived ease of use on purchase intention. However, trust in sustainable packaging is not able to mediate the effect of environmental concern on purchase intention.

The practical implications of this research are significant for businesses and policymakers seeking to encourage sustainable packaging. Regarding the research

object, palmyra packaging, manufacturers should focus on improving the production methods of palmyra packaging to ensure the material is durable, functional, and suitable for a wide range of products. Research into strengthening the material's properties will help palmyra packaging become a more competitive alternative to other sustainable materials. It is also important for manufacturers to use clear sustainability claims and certifications from ISO (International Organizations for Standardization) 1400, promoting palmyra leaf packaging as an eco-friendly choice. In addition, educational campaigns should emphasize the environmental benefits of palmyra packaging and educate consumers about how they can contribute to sustainability by choosing products with this type of packaging. Furthermore, the design of palmyra packaging should prioritize consumer convenience, making it easy to open, handle, and dispose of, which will enhance the overall consumer experience. Manufacturers can also implement loyalty programs to incentivize consumers who select products with sustainable packaging, thus encouraging more sustainable purchasing behavior. For example, Offer a discount on next purchase for customers who buy products with palmyra packaging. Policymakers should support regulations that promote the use of palmyra packaging and provide incentives for companies adopting it for example the government requires every modern retailer such as Hypermart, Indomaret, Alfamart and traditional markets to offer environmentally friendly packaging (palmyra packaging) when consumers shop. Finally, further research should be conducted to better understand the consumer perceptions and market acceptance of palmyra packaging, considering cultural influences and consumer experience. These two variables are important to study further because they can influence consumer behavior. For example, certain cultures can

influence consumers' views on sustainability and environmentally friendly packaging. Previous experiences with a product or packaging can also make consumers more likely to choose products with similar packaging in the future. We did not use these two variables in this study because their scope is more limited, focusing on the technical aspects of packaging, such as sustainability and function. By following these recommendations, palmyra packaging can become a widely accepted and sustainable alternative, benefiting both the environment and the marketplace.

ACKNOWLEDGEMENT

The authors would like to thank the Directorate of Research Technology and Community Service for providing Research grants in 2024.

REFERENCES

- Adiputra, I. G., & Aoleria, K. (2023). The effect of environmental concern and attitude of toward green brand on green purchase intention: evidences in milenial generations in jakarta. *Archives of Business Research*, 11(8), 48–59
- Akenji, L., & Bengtsson, M. (2014). Making sustainable consumption and production a reality. *Sustainable Development*, 22(6), 386-394.
- Amin, S., & Tarun, M. T. (2021). Effect of consumption values on customers' green purchase intention: a mediating role of green trust. *Social Responsibility Journal*, 17(8), 1320–1336.
- Anquez, E., Raab, K., Cechella, F. S., & Wagner, R. (2022). Consumers' perception of sustainable packaging in the food industry. *Revista Direitos Culturais*, 17(41), 251–265.
- Boz, Z., Korhonen, V., & Sand, C. K. (2020). Consumer considerations for the implementation of sustainable packaging: A review. *Sustainability (Switzerland)*, 12(6), 2192.
- Brennan, L., Langley, S., Verghese, K., Lock-

- rey, S., Ryder, M., Francis, C., Phan-Le, N. T., & Hill, A. (2020). The role of packaging in fighting food waste: a systematised review of consumer perceptions of packaging. *Journal of Cleaner Production*, 125–276.
- Chen, L., Wu, Q., & Jiang, L. (2022). Impact of environmental concern on ecological purchasing behavior: The moderating effect of prosociality. *Sustainability (Switzerland)*, 14(5).
- Chen, Y. S., & Chang, C. H. (2012). Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. *Management Decision*, 50(3), 502–520.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
- De Canio, F. (2023). Consumer willingness to pay more for pro-environmental packages: The moderating role of familiarity. *Journal of Environmental Management*, 339.
- De Canio, F., Martinelli, E., & Endrighi, E. (2020). Enhancing consumers' pro-environmental purchase intentions: the moderating role of environmental concern. *International Journal of Retail and Distribution Management*, 49(9), 1312–1329.
- Downey, R. (2020, November 19). *Packaging Delivers on Pandemic-Heightened Safety Priority but Sustainability Remains Important*. Euromonitor. <https://www.euromonitor.com/article/packaging-delivers-on-pandemic-heightened-safety-priority-but-sustainability-remains-important>
- Duarte, P., Silva, S. C., Roza, A. S., & Dias, J. C. (2024). Enhancing consumer purchase intentions for sustainable packaging products: An in-depth analysis of key determinants and strategic insights. *Sustainable Futures*, 7.
- Escario, J. J., Rodriguez-Sanchez, C., & Casaló, L. V. (2020). The influence of environmental attitudes and perceived effectiveness on recycling, reducing, and reusing packaging materials in Spain. *Waste Management*, 113, 251–260.
- Esvandari, M. (2023). The effect of eco-friendly packaging on purchase intention with consumer perception as an intervening variable. *International Journal of Entrepreneurship and Sustainability Studies*, 3(2), 62–80.
- Gorton, M., Tocco, B., Yeh, C. H., & Hartmann, M. (2021). What determines consumers' use of eco-labels? Taking a close look at label trust. *Ecological Economics*, 189.
- Gunawan, A. A., Bloemer, J., van Riel, A. C. R., & Essers, C. (2022). Institutional barriers and facilitators of sustainability for Indonesian batik SMEs: A Policy Agenda. *Sustainability (Switzerland)*, 14(14).
- Hair, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, 109(August 2019), 101–110.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.
- Hanifa, Z., Triharini, M., Malasan, P. L., Pus-pita, A. A., Taepoer, R. A., (2024). An exploration of lontar (borassus flabel-lifer L.) material in East Flores region. *Jurnal Desain Indonesia*, 06(01), 62–71.
- Indriani, D. I. A., Rahayu, M., & Hadiwidjo-jo, D. (2019). The influence of environ-mental knowledge on green purchase in-tention the role of attitude as mediating variable. *International Journal of Multi-cultural and Multireligious Understanding*, 6(2), 627.
- James, F., & Kurian, A. (2021). Sustainable packaging: A study on consumer percep-tion on sustainable packaging options in e-Commerce industry. *Natural Volatiles & Essential Oils* 8(5), 10547-10559.
- Khan, K. U., Atlas, F., Arshad, M. Z., Akhtar, S., & Khan, F. (2022). Signaling green: Impact of green product attributes on consumers trust and the mediating role of green marketing. *Frontiers in Psycho-logy*, 13.
- Kim, N., & Lee, K. (2023). Environmental consciousness, purchase intention, and actual purchase behavior of eco-friendly products: The moderating impact of si-

- tuational context. *International Journal of Environmental Research and Public Health*, 20(7).
- Kurniawan, S., & Tankoma, A. (2023). The effect of perceived ease of use and perceived enjoyment on customer trust and loyalty in online food delivery service. *Binus Business Review*, 14(2), 163–170.
- Lan, B. T. H., Phuong, T. T. L., Dat, T. T., & Truong, D. D. (2023). Factors affecting the purchase intention of products with environmentally friendly packaging of urban residents in Ho Chi Minh City, Vietnam. *Sustainability (Switzerland)*, 15(9).
- Lee, Y. K. (2020). The Relationship between green country image, green trust, and purchase intention of Korean products: Focusing on Vietnamese Gen Z consumers. *Sustainability (Switzerland)*, 12(12).
- Liobikiene, G., & Poškus, M. S. (2019). The importance of environmental knowledge for private and public sphere pro-environmental behavior: Modifying the Value-Belief-Norm theory. *Sustainability (Switzerland)*, 11(12).
- Lopes Amaral, M. A., Adrianus, J. S., & Watu, E. G. Ch. (2024). Meningkatkan green purchasing behavior di kota Kupang: Peran green perceived value, green perceived risk, dan green perceived trust. *Jurnal Manajemen*, 21(1), 18–32.
- Lopes, J. M. M., Gomes, S., & Trancoso, T. (2024a). Navigating the green maze: insights for businesses on consumer decision-making and the mediating role of their environmental concerns. *Sustainability Accounting, Management and Policy Journal*, 15(4), 861–883.
- Maduku, D. K. (2024). How environmental concerns influence consumers' anticipated emotions towards sustainable consumption: The moderating role of regulatory focus. *Journal of Retailing and Consumer Services*, 76.
- Nguyen, T. H., Nguyen, H. N., Nguyen, L. D., Nguyen, D. T., Truc, L. N., & Nguyen, L. T. (2024). Effect of tourist satisfaction on revisit intention in Can Tho City, Vietnam. *Cogent Business and Management*, 11(1).
- Norton, V., Oloyede, O. O., Lignou, S., Wang, Q. J., Vásquez, G., & Alexi, N. (2023). Understanding consumers' sustainability knowledge and behaviour towards food packaging to develop tailored consumer centric engagement campaigns: A Greece and the United Kingdom perspective. *Journal of Cleaner Production*, 408.
- Nugraha, T. W., Udayana, I., & Lukitaningsih, A. (2021). Pengaruh perceived usefulness, perceived ease of use dan subjective norm terhadap purchase intention melalui attitude pengguna OLX (Studi Kasus: Pada Mahasiswa UST Yogyakarta). *Jurnal Bingkai Ekonomi JBE*, 6(2), 12–27.
- Ogiemwonyi, O., Alam, M. N., Alshareef, R., Alsolamy, M., Azizan, N. A., & Mat, N. (2023). Environmental factors affecting green purchase behaviors of the consumers: Mediating role of environmental attitude. *Cleaner Environmental Systems*, 10.
- Petkowicz, A. C., Pelegrini, T., Bodah, B. W., Rotini, C. D., Moro, L. D., Neckel, A., Spanhol, C. P., Araújo, E. G., Pauli, J., Moro, L. D., Neckel, A., Spanhol, C. P., Araujo, E.G., Pauli, J., & Mores, G. d V. (2024). Purchasing intention of products with sustainable packaging. *Sustainability (Switzerland)*, 16(7).
- Qalati, S. A., Barbosa, B., & Deshwal, P. (2024). Consumer behavior and sustainable marketing development in online and offline settings. *Sustainability*, 16(7), 2829.
- Rakesh, R., & Valsalachandran. (2024). A study on the consumer behavior and eco-friendly packaging in food delivery services. *Theory And Practice*, 2024(6), 198–208.
- Reddy, K. P., Chandu, V., Srilakshmi, S., Thagaram, E., Sahyaja, C., & Osei, B. (2023). Consumers perception on green marketing towards eco-friendly fast moving consumer goods. *International Journal of Engineering Business Management*, 15.
- Saari, U. A., Damberg, S., Frömbli, L., & Ringle, C. M. (2021). Sustainable con-

- sumption behavior of Europeans: The influence of environmental knowledge and risk perception on environmental concern and behavioral intention. *Ecological Economics*, 189.
- Santos, V., Gomes, S., & Nogueira, M. (2021). Sustainable packaging: Does eating organic really make a difference on product-packaging interaction? *Journal of Cleaner Production*, 304.
- Sari, K., Adelia, S., Yusmini, N. M., Hasmi-dar, & Nurofik, A. (2023). The role of perceived ease of use, trust and perceived usefulness on intention to use customer of Tix Id. *JEMSI (Jurnal Ekonomi, Manajemen, Dan Akuntansi)*, 9(1), 132-139.
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2017). Partial least squares structural equation modeling. in *handbook of market research* (Issue September).
- Sulfi, S., Kurup, M. C., Jeevanandam, J., & Babu, T. (2023). Study on consumer perception towards green products. *Tui-jin Jishu / Journal of Propulsion Technology*, 44(6), 2834–2842.
- Tufail, H. S., Ramzan, S., Baig, F. J., Baig, W., & Nargis, F. (2023). An empirical investigation of sustainable packaging purchase intention in pakistan. *Journal of Policy Research*, 9(4), 264–275.
- UNEP. (2020). *Single-use plastics: A roadmap for sustainability*. United Nations Environment Programme. <https://www.unep.org/resources/report/single-use-plastics-roadmap-sustainability>
- Wang, K., & Zhang, L. (2021). The impact of ecological civilization theory on university students' pro-environmental behavior: An application of knowledge-attitude-practice theoretical model. *Frontiers in Psychology*, 12.
- Zhang, Y., Ahmad, A., Azman, N., & Ming-xia, W. (2023). The effect of perceived usefulness, perceived ease of use, and social influence toward purchase intention mediated by trust in live streaming platform. *Journal of Law and Sustainable Development*, 11(9), e1284.
- Zuelseptia, S., Rahmiati, R., & Engriani, Y. (2018). The influence of perceived risk and perceived ease of use on consumer's attitude and online purchase intention. *Proceedings of the First Padang International Conference on Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA 2018)* (pp. 550–556). Atlantis Press.