

# The Strategy To Increase The Purchase Intention Of Unpacked Products

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**Abstract:** Consumer orientation toward Green Products or environmentally friendly products is one of the supporting factors for business continuity. The Green Product in this study is a refill product without packaging (unpacked product). Consumer behaviour in choosing Green Products is part of Pro-Environmental Behavior (PEB) which is largely determined by several things. This study raises several aspects: knowledge, economics, supporting facilities, packaging of the product, and environmental attitude. This research involved 124 respondents who live in Jakarta and surrounding areas. The selection of respondents was carried out by purposive sampling method, with the criteria of respondents being groups of people who were aware of the existence of refillable products without packaging. Data analysis was carried out using Structure Equation Modeling – Partial Least Square (SEM-PLS). The research reveals that all independent variables have a significant effect except for economic aspects.

**Keywords:** Economic Aspects; Facility Support; Knowledge; Packaging; Environment Attitude.

**Abstrak:** Orientasi konsumen terhadap Green Products merupakan salah satu faktor pendukung keberlangsungan usaha. Produk ramah lingkungan dalam penelitian ini adalah produk isi ulang tanpa kemasan (*unpacked product*). Perilaku konsumen dalam memilih produk yang ramah lingkungan merupakan bagian dari *Pro Environmental Behavior (PEB)* yang sangat ditentukan oleh beberapa hal, dalam penelitian ini mengangkat beberapa aspek yaitu aspek pengetahuan, aspek ekonomi, aspek ketersediaan fasilitas penunjang dan pandangan konsumen terhadap kemasan produk, dan Sikap Lingkungan. Penelitian ini melibatkan 124 responden yang berdomisili di Jakarta dan sekitarnya. Pemilihan responden dilakukan dengan metode *purposive sampling* dengan kriteria responden adalah kelompok masyarakat yang mengetahui adanya produk isi ulang tanpa kemasan. Analisis data dilakukan dengan menggunakan *Structure Equation Modeling Partial Least Square (SEM-PLS)*. Hasil penelitian menunjukkan bahwa semua variabel bebas berpengaruh signifikan kecuali aspek ekonomi.

**Kata kunci:** Aspek Ekonomi; Dukungan Fasilitas; Pengetahuan; Kemasan Produk; Sikap Terhadap Lingkungan.

## INTRODUCTION

This research is a series of studies related to efforts to improve consumer behaviour to care more about the environment (Pro-Environmental Behavior/PEB), previous research researchers observed the government's role in establishing PEB, and in this study, researchers focused more on producer initiatives in building consumer behaviour to be environmentally friendly.

Plastic waste increases every year; most of this plastic waste is plastic bags or plastic containers, or product packaging (Geyer et al., 2017). Plastic has unique physical and chemical characteristics, so plastics are used all over the world, especially in industry. Unfortunately, the use of plastics causes many harmful environmental impacts related to



the amount of production and poor plastic waste treatment methods. Plastic waste is a crucial environmental issue. The growth of world plastic waste is very fast, especially in Asian and African countries, which lack the facilities to recycle plastic waste. The plastics manufacturers often put additives which make it more difficult to decompose. The spread of plastic from one region to another through the ocean also pollutes the sea (Parker, 2019). Even more, ultraviolet light can decompose plastic into microplastics that are almost impossible to recover and disrupt human health and the environment (Wenqian, L. et al., 2021). Indonesia is the country with the fourth highest population in the world and is the second largest contributor to plastic waste in the world (Mc Carthy, 2020; Rhodes, 2018). Even now, the level of plastic emissions globally has reached an alarming point where plastic pollution is a global threat (Sandle, 2021).

Efforts to reduce plastic waste are pursued by all parties, particularly both consumers and producers. Consumers limit the use of plastic bags while producers try to reduce plastic waste by using the 3R concept (Reduce, Recycle and Re-Use). One of the efforts made by produce to reduce plastic waste is to reduce the volume of packaging by introducing refillable products without using packaging (unpacked products). This refillable product without packaging requires consumers to bring their containers to be able to store the product. It is expected that consumers will use containers that can be used repeatedly so that this unpacked product is successful in reducing the use of packaging which is usually dominated by plastic materials, to reduce plastic waste.

The concept of refillable products without packaging is reasonable to reduce plastic waste, but the main issues are: Will consumers accept these unpacked products or refillable products without packaging? Will producers with good intentions to reduce the usage of plastic get support from consumers? The decision to market unpacked products seems risky for some producers because their competitors may still use packaging in selling their products. Packaging is one of the tools to improve or leverage product quality because the packaging does not only act as a product protector but also as a medium to convey information, put a brand, and act as an instrument to differentiate from other similar products.

This study pays attention to the variables that influence the behaviour of environmentally oriented consumers (Pro-Environment Behavior / PEB), especially those related to consumer acceptability of refillable products without packaging. In contrast to previous research studies related to PEB, the research not only pays attention to the consumer acceptability of refillable products but also pays attention to the effect of the loss of support for the role of packaging in increasing consumer interest in buying products. The research framework and the variables used were formulated from several previous studies related to consumer buying interest.

Consumers' buying interest in refillable products without packaging is determined by several factors. It seems that what has been conveyed in previous research and the results of a pre-survey conducted by researchers that consumer buying interest in environmentally friendly products is determined by, among others, consumer knowledge regarding the environment (Afroz, 2016; Pothitou et al., 2016), the economic benefits of the product for consumers (Fairhurst and Nam, 2019; Zamroni et al., 2020; Paul et al., 2016), supporting physical facilities and regulation (Zamroni et al., 2020; Mulia, and Shihab, M.S., 2021), and product packaging (La Marco, 2019) and consumer attitudes related to the environment (Joseph, 2020). Other researchers explain that although the existing research is still developing, it is very limited in terms of the theory used to explain



consumer buying behaviour and in the variables tested from consumer purchases of food in environmentally friendly packaging, but from the research, it can be revealed that demographic aspects, consumer attitudes, knowledge about the environmental impact of packagings such as visual design, functionality, and affordability are factors that influence buying interest in environmentally friendly products (Popovic et al., 2019).

The objective of this study is to formulate strategic actions that need to be taken to increase interest in buying refillable products without packaging by evaluating (1). Whether Environmental attitude as a mediator plays a role following the research model. (2). Does consumer knowledge about the environment, the availability of supporting facilities, economic aspects, and the role of packaging affect consumer interest in buying unpacked products, either directly or indirectly?

## **THEORETICAL REVIEW**

**Pro-Environment Behavior (PEB).** Pro-Environmental Behavior (PEB) is one of the attitudes that determine the success of environmental conservation (Yusliza, 2020). PEB is a collection of environmental actions that are consciously carried out to minimize the negative impacts of actions that threaten the sustainability of the planet (Pothitou et al., 2016). PEB is also known for environmentally friendly behaviour and for protecting the environment (Mkumbachi et al., 2020). PEB is also defined as a behaviour that is carried out to protect, improve and minimize the negative impact of human activities on the environment. (Yolandari and Umar, 2017). Referring to some of the opinions above, it can be concluded that PEB is a behaviour or action that aims to protect the environment by suppressing the negative impacts of human activities on the environment, such as zero waste, reduction, reuse, recycling, and consumption of a green product. An example of the implementation of PEB is the act of choosing and consuming products that are more environmentally friendly. In this study, PEB is defined as the intention to consume a green product, such as consuming refilled products without packaging (unpacked products).

**Environmental attitude and its relation to PEB.** A pro-Environmental attitude is an attitude that is more likely to care about environmental issues because attitude is the centre of Pro-Environmental behaviour (Joseph, 2020). (Afroz, 2016) also adds that attitude is an important measuring tool related to how people learn about their environment and care about environmental problems.

Research related to green products was conducted by (Chen and Chang, 2016) which showed that attitude plays an important role as a mediator between brand associations and purchase intentions towards green products. The relationship between attitude and purchase intention in this study is positive and significant. Hypotheses can be defined based on previous research.

**H1:** The Environmental Attitude influences the purchase intention of refill products without packaging (unpacked product).

Based on the foregoing, (Fiorillo and Senatore, 2016) stated that in Pro-Environmental Behavior, the context of attitude is defined as individual concern for the prevention and disposal of waste and environmental behaviour such as recycling behaviour or also known as Environmental attitude. This behaviour is characterized by attitudes such as concern for waste which is shown in the form of individual concern for the presence of



waste so that preventive measures and appropriate waste disposal methods emerge so as not to damage the environment. In addition to being concerned about waste, another attitude is the willingness of individuals to protect the environment by reducing the use of products that have the potential to cause waste and recycling waste, especially non-organic waste, such as paper, glass, plastic, and aluminium or other forms of waste processing in general. The attitude that may be taken as responsibility for the environment is to take the role of a social agent who is responsible for the environment.

Understanding environmental attitudes are critical to tackling many applied environmental problems, ranging from local problems, such as water pollution, to global problems, such as climate change (Cruz and Manata, 2020) as stated by (Dipeolu et al., 2019) stated that environmental attitude has been defined as a collection of beliefs, influences, and actions that show concern for the environment.

**Facility Support and its relation to PEB.** Facility support is the availability of facilities in the community that can support PEB, such as the availability of separate trash cans between organic and inorganic waste bins to make it easier to manage waste. Ease of access to recycling facilities and affordable green product prices all affect PEB (Zamroni et al., 2020). In addition to physical facilities, facility support in research can be in the form of government support for environmental sustainability by issuing government regulations aimed at preserving the environment. In previous studies, it was stated that the relationship between the existence of government regulations and environmentally friendly behaviour was positive and significant (Mulia et al., 2021).

Although researchers have not found any literature related to the relationship between Facility Support and Environmental Attitude, this study also examines the relationship between Facility Support and Environmental Attitude. Thus this study can contribute to the relationship between facilities and environmental attitudes for other researchers. Referring to previous research studies, the following hypothesis can be defined.

**H2:** Facility support affects Environmental Attitude.

**H3:** Facility Support influences the decision to buy refillable products without packaging.

**Knowledge and its relation to PEB.** Knowledge in this study is consumer knowledge related to the environment, for example, knowledge related to the dangers of plastic waste and toxic waste, climate change, etc. According to Lee (2017), environmental knowledge is an individual's perception of how far his knowledge is related to environmental problems in general and assumes that environmental knowledge is closely related to interest in buying environmentally friendly products.

Several studies show that knowledge has a positive and significant relationship with PEB (Brinia et al., 2020). Consumers with sufficient environmental knowledge tend to have environmentally friendly behaviour (Alfroz et al., 2016) compared to consumers whose environmental knowledge is relatively shallow. Research related to body shop products shows that environmental attitude has succeeded in mediating consumer knowledge related to the environment and interest in buying environmentally friendly products (Rachmawati et al., 2019).

Other research states that the direct relationship between knowledge and environmentally friendly behaviour is not significant because consumer knowledge related

to the environment does not directly guarantee consumer behaviour is environmentally friendly (Mulia et al., 2021). Based on this, the following hypothesis can be formulated.

**H4:** Knowledge affects Environmental Attitude.

**H5:** Knowledge affects the interest in buying refill products without packaging.

**Economic Factors and their relation to PEB.** Economic factors in this study are financial benefits or financial risks faced by consumers when buying products. Economic benefits can be in the form of economic incentives received by consumers if they have environmentally oriented behaviour.

Incentives can be in the form of easy access to environmentally friendly products at affordable prices or other incentives that have an impact on income or reduce consumer spending, such as price discounts. Incentives have a positive and significant relationship with PEB (Gibovic and Bikfalvi, 2021, Grandin et al., 2021).

In addition to the economic benefits, there are also economic risks that may be experienced, such as higher expenses due to the price of environmentally friendly products that can be sold at a higher price. (Grandin et al., 2021) also added that financial capacity plays a direct role because many pro-environmental behaviours are quite expensive, so the need to have more money can facilitate individuals to access green products. (Liu et al., 2019) also stated that financial ability is the most significant factor in the enthusiasm of individuals to take action to protect the environment.

Social factors, which include gender, income, and level of education, influence individual views regarding the environment or also known as environmental attitude or environmental concern (Susanti et al., 2021). Based on this previous research, the following hypothesis can be proposed:

**H6:** Economic factors affect the environmental attitude.

**H7:** Economic factors affect the interest in buying refill products without packaging.

**Product Packaging and its relation to PEB.** Product packaging in marketing is believed to influence consumers in making decisions to buy. Product packaging, whose main function is to protect the product, then its function can be developed into a factor that can increase sales (La Marco, 2019).

The important thing about packaging that also affects sales is the quality of the packaging material (Agata, 2017), information, and clear writing of the packaging, including brand-related information (Sumner, 2017). (Kroese, 2017) conducted a study related to the comparison of consumer perceptions of food without packaging or packaged in paper packaging compared to food in plastic packaging. The results showed that the food packaged in plastic packaging was perceived by consumers as food that was not fresh and unhealthy when compared to food that was not packaged or packaged in paper packaging.

This research also proves that unpackaged food is just as good as packaged food when it comes to communicating product benefits. Related to packaging, the following hypothesis can be formulated.



**H8:** Packaging affects the Environmental Attitude

**H9:** Packaging affects the purchase intention of refilled products without packaging.

## METHODS

This research is quantitative. The research analyzes the relationship between the independent variable and the dependent variable, either directly or indirectly. It was stated in the Literature Review and Hypotheses that the objective of the research is to encourage consumers to have Pro Environment Behavior (PEB). The study was made by considering the variables about consumer considerations when buying refillable products without packaging as an effort to support the reduction of plastic packaging waste.

This study is not only evaluating the relationship between the independent variable and the dependent variable but also the significance of the influence of independent variables on dependent variables, which in the end will formulate the strategic actions that need to be done on the independent variable so that the performance of the dependent variable is as expected. As illustrated in the research model, selected as the dependent variable is Pro Environment Behavior (PEB), in this research is the willingness of a consumer to buy refillable products without packaging. Meanwhile, there are four independent variables and one mediating variable in this study. The research flow is carried out in the following stages:

**Problem Definition.** The problem in this study is to formulate the efforts that must be conducted by the independent variable so that the performance of the dependent variable is in line with expectations or goals. In this study, the performance of the dependent variable is measured by the consumer's interest in buying refilled products without packaging (unpacked products). The main purpose of producing unpacked products is to reduce waste caused by product packaging. The independent variables are obtained from preliminary surveys and previous research. The selected variables in this study are knowledge, packaging, facility support, environmental attitudes, and economic aspects.

**Preliminary Survey.** A preliminary survey was conducted to select the independent variables to be used in this research. Referring to the previous research, there are several independent variables have been used to evaluate the buying intention. The Preliminary involved 30 respondents in obtaining independent variables that were in accordance with the topic of the study and also matched with the product used as the research object. The selected variables are the customer's knowledge about the environment, facility to support the environment, packaging of a product, economic aspects related to unpacked product and environmental attitude of customers.

This study defines Pro-Environmental Behavior (PEB) as the dependent variable in which PEB is associated with the use of environmentally friendly products, especially in buying refillable products without packaging (unpacked products). Meanwhile, Environmental attitude was chosen as the mediating variable. The rest, variables of knowledge, Facility Support, Packaging, and Economics aspect, were used as independent variables.

**The Variables and Indicators.** Both the independent variables and the dependent variables are latent variables that require indicators as explanations. The definition of each variable and its indicators are described in **Table 1**. The indicators that explain the



variables are then used as a measuring tool. The questionnaire, related to indicators, is asked of respondents to determine the respondent's assessment or perception of a variable.

**Table 1.** The Variables and Indicators

No	Variable	Definition	Indicator
1	Pro-Environmental Behavior (PEB)	Pro-Environmental Behavior (PEB) is behaviour to protect, improve and minimize the negative impact of human activities on the environment. This includes the decision to buy environmentally friendly products.	<ol style="list-style-type: none"> <li>1. Environmental aspects are the main factor in choosing products</li> <li>2. Recommend the use of environmentally friendly products</li> <li>3. Avoid using single-use plastic packaging</li> </ol>
2	Facility Support	Facilities support is a facility that supports environmental behaviour, such as the availability of trash cans, janitors, waste processing facilities, etc	<ol style="list-style-type: none"> <li>1. Availability of separate trash bins</li> <li>2. Sufficient waste management facilities are available</li> <li>3. There are rules related to the environment</li> </ol>
3	Knowledge	Environmental knowledge is knowledge about the importance of preserving the environment when carrying out daily activities, including shopping	<ol style="list-style-type: none"> <li>1. Knowing the dangers of using plastic excessively</li> <li>2. Knowing the impact of environmental pollution on the climate</li> <li>3. Knowing how to deal with environmental damage</li> </ol>
4	Economics	The economic aspect is an economic consideration in protecting the environment, including when choosing environmentally friendly products	<ol style="list-style-type: none"> <li>1. The price of environmentally friendly products is not always higher</li> <li>2. It costs a lot for plastic waste management</li> <li>3. Plastic packaging is not always more efficient and effective</li> </ol>
5	Packaging	It is one of the attributes of the product that serves to protect the product, provide product-related information, place the product brand and as one of the attractions of the product.	<ol style="list-style-type: none"> <li>1. Packaging is not very important in protecting the product</li> <li>2. Packaging is not required to provide product-related information</li> <li>3. Brand in Packaging is not required</li> </ol>
6	Environmental Attitude	The complex combination of beliefs, influences, and actions regarding environmental aspects	<ol style="list-style-type: none"> <li>1. Willingness to Manage Waste</li> <li>2. Willingness to be an environmental volunteer</li> <li>3. Willingness to help other people manage waste</li> </ol>

**Data Acquisition.** The data in this study were obtained through a questionnaire that was sent to respondents in the Great Jakarta Area using a purposive sampling method or judgmental sampling method. The respondent criteria used in determining the sample are consumers who understand the concept of refilled products without packaging (unpacked products). For that reason, an explanation regarding the concept of unpackaged products is delivered at the beginning of the questionnaire as an opening and explanation. The sample size in this study is at least 100 respondents, so the data meets the criteria for using Structure Equation Model (SEM) analysis. The number of respondents follows the established rules; namely, the minimum sample is five to ten times the number of



indicators. This study uses 18 indicators to explain six latent variables. Respondents were asked to fill out a questionnaire related to the indicators used as a measuring tool for latent variables using a Likert scale of one to five. This study used 124 samples (respondents' answers) that met the requirements for further analysis.

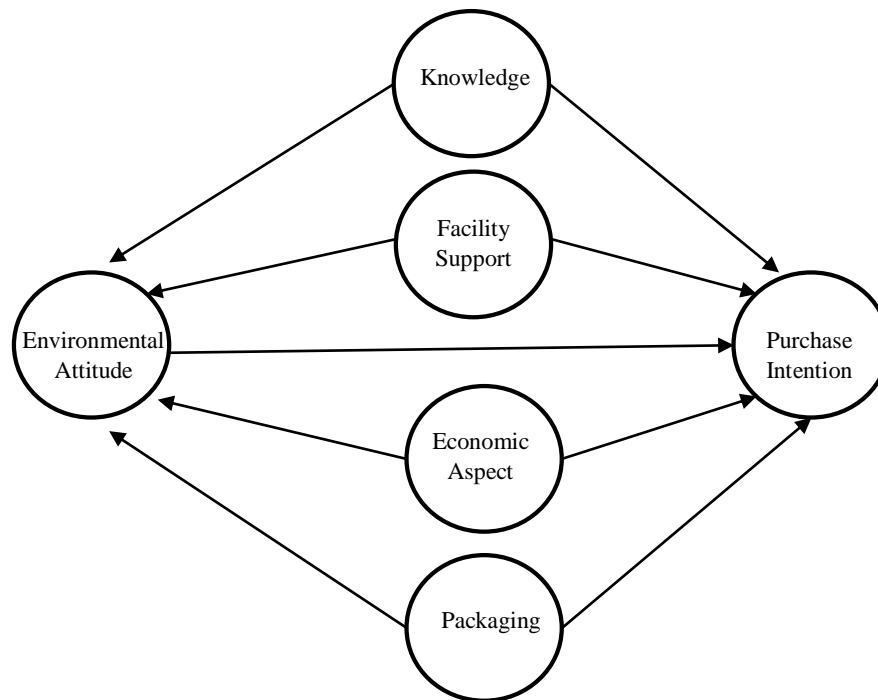
**Data analysis.** Data analysis was carried out using the Structural Equation Model (SEM) using the statistic application: SmartPLS. In addition to obtaining structural equations, path analysis was also carried out. Path analysis is necessary to test the hypotheses set out in the study. In addition to hypothesis testing, analysis is also carried out on respondents' perceptions of the indicators contained in the questionnaire. A combination of hypothesis testing and respondents' perception of each indicator are used to formulate the strategic action to increase the purchase intention of customers to buy the unpacked product.

**Research Model.** The independent variable in this study is Facility Support which is defined as all physical and non-physical facilities that support the creation of Pro-Environmental Behavior, such as the availability of trash bins, cleaning staff, waste processing facilities, the existence of government support in the form of government regulations, etc. Environmental knowledge is knowledge about the importance of preserving the environment when carrying out daily activities, including shopping. Economics or economic aspects are economic considerations in protecting the environment, such as the cost of managing waste and the economic consequences of becoming a pro-environmental consumer, including when choosing environmentally friendly products. Packaging is one of the attributes of a product that serves to protect the product, provide product-related information, place the product brand and as one of the attractions of the product.

Meanwhile, the dependent variable is Pro-Environmental Behavior (PEB) which is consumer behaviour to minimize environmental damage by using environmentally friendly products, including the decision to buy refillable products without packaging. Environmental attitude is defined as an action that shows concern for the environment. Based on previous research, there is a direct or indirect relationship between the independent variable and the dependent variable. As a mediating variable in this study, the Environmental Attitude variable was used. The relationship between the independent and dependent variables, as well as the mediating variable, can be described in **Figure 1** as a research model.







**Figure 1.** Research Model

The research model in **Figure 1** shows that all the variables involved are latent variables, each of which is explained by observable indicators as measuring tools. The independent variables in the model, apart from being directly connected to the dependent variable, are also connected indirectly through the mediating variable. This model can also be used to verify the role of mediating variables.

## RESULTS

**Respondent Characteristics.** This study succeeded in collecting data from 124 respondents who were declared eligible for further processing. Most of the respondents were women, with a composition of 75 women (60 per cent) and 49 men (40 per cent). The age group of respondents is dominated by the age group of 26 to 46 years, as much as 85 per cent of the total respondents.

**Statistic test.** Six latent variables, each of them is explained by three indicators, namely Pro-Environmental Behavior (PEB) specifically related to the interest in buying environmentally friendly products, which are described by the latent variable PURCH and explained by indicators (PEB1, PEB2, and PEB3). The Facility Support variable, which is then given the notation FACIL, is the latent variable described by three indicators, namely: FAS1, FAS2, and FAS3. The variable of consumer knowledge given the notation KNOW is explained by three indicators, each of which is given the notation KNW1, KNW2, and KNW3. Variables concerning economic aspects are given the notation ECON, which is explained by three indicators, namely ECON1, ECON2, and ECON3. The same thing to the variable packaging, which is also explained by the three indicators. Packaging as a variable is given the notation PACK, and the explanatory

indicators are given the notation PACK1, PACK2, and PACK3. Meanwhile, the Environmental Attitude variable is explained by three indicators, namely ATT1, ATT2, and ATT3. Variable of Environmental Attitude has given the notation ATT.

All indicators and variables are valid and reliable this is following the established criteria of validity and reliability, which are the loading factor value greater than 0.600; Cronbach Alpha greater than 0.600; AVE (Average Variance Extracted) greater than 0.500, and CR (Composite Reliability or Construct Reliability) greater than 0.700 (Hair et al., 2019). The result of the validity test and reliability test is described in **Table 2**.

**Table 2.** Validity and Reliability

No	Variable	Indicator	loading	C Alpha	AVE	CR
1	Pro-Environmental Behaviour (PURCH)	PEB1	0.825	0.717	0.639	0.841
		PEB2	0.845			
		PEB3	0.723			
2	Facility Support (FACIL)	FAS1	0.874	0.821	0.732	0.891
		FAS2	0.881			
		FAS3	0.810			
3	Knowledge (KNOW)	KNW1	0.792	0.759	0.668	0.858
		KNW2	0.869			
		KNW3	0.790			
4	Economics (ECON)	ECON1	0.710	0.760	0.634	0.837
		ECON1	0.896			
		ECON3	0.772			
5	Packaging (PACK)	PACK1	0.851	0.776	0.691	0.870
		PACK2	0.890			
		PACK3	0.746			
6	Environmental Attitude (ATT)	ATT1	0.807	0.789	0.704	0.877
		ATT2	0.809			
		ATT3	0.897			

The recapitulation of the frequency of respondents' answers for each indicator is presented in **Table 3**, where scale one indicates that respondents do not support Pro-Environmental Behavior, while scale five indicates that respondents tend to be more oriented to environmental aspects or support Pro-Environmental Behavior.

In general, respondents have thoughts that support PEB; this is indicated by the results of a questionnaire in which 80 per cent of respondents agree that environmental aspects should be taken into consideration in choosing products, and respondents also agree to help recommend environmentally friendly products. Ironically, only 60 per cent of respondents strongly agree with the use of single-use plastics, the rest are neutral, and less than five per cent disagree with the use of single-use plastics. Regarding the available facilities, most of the respondents are neutral and tend to disagree if the existing facilities are adequate, meaning that currently, the supporting facilities have not met the expectations of the respondents. Regarding consumer knowledge, most of the respondents already have sufficient knowledge regarding the dangers of environmental damage and how to cope with environmental damage. In other words, most consumers already know the dangers of waste to environmental sustainability.

The attitude of the respondents is mostly very concerned with environmental sustainability, and respondents tend to behave in a way that supports environmental sustainability. Although respondents tend to pay attention to the environment by considering the use of refilled products without packaging, most of the respondents do not agree that product packaging is considered unimportant both to protect products and to provide information and brands, meaning that respondents still rely on packaging as a means of product-related information.

**Table 3.** Recapitulation of Respondents' Answers

Indicators	1	2	3	4	5
PEB1	0	0	18	62	44
PEB2	0	0	12	66	46
PEB3	0	6	44	49	25
FAS1	0	6	44	49	25
FAS2	9	45	32	30	8
FAS3	7	39	36	32	10
KNW1	0	1	4	64	55
KNW2	0	1	4	62	57
KNW3	0	1	33	69	21
ECON1	0	8	35	67	14
ECON2	0	11	38	58	17
ECON3	2	17	56	38	11
ATT1	0	1	7	68	48
ATT2	0	4	37	64	19
ATT3	0	1	22	74	27
PACK1	48	68	5	3	0
PACK2	41	71	12	0	0
PACK3	46	71	7	0	0

**Predictive Relevance.** Predictive relevance is a test carried out to show how good the observed value is by using the blindfolding procedure by looking at the value of the Q square. If the value of the Q square is greater than 0.000, then it means it has a good observation value, whereas if the value of the Q square is less than 0.000, then it can be stated that the observed value is not good (Sarstedt et al., 2017). The result of the predictive relevance test of this study gets the Q square value of 0.167 for the ATT variable and 0.167 for the PURCH variable. The value of the Q square in this study is greater than 0.000, which means that this study has a good observation value.

**The goodness of Fit.** Several indicators are used to explain the relationship between the independent variable (exogenous) and the dependent variable (endogenous), including R squared and SRMR (Standardizes Root Mean Square Residual). This study obtained an R squared value of 0.359 which means that the model can explain the interest in buying products without packaging by 36 per cent (moderate). SRMR less than 0.100 indicates a good match. This research model gives an SRMR value of 0.084.

**Hypothesis testing.** Hypothesis testing was conducted to evaluate the significance of the relationship between independent variables and dependent variables, either directly



or through the mediating variable. The criteria used in hypothesis testing are a P-value less than 0.050 or a T-statistic greater than 1.960. The direct relationship between the variables specified in the research model is illustrated in the path coefficient in **Table 4**. The level of significance of the indirect relationship between the independent variable and the dependent variable by using the mediating variable is illustrated in **Table 5**, namely the specific indirect effect.

The Path coefficient table shows that the direct relationship between the independent variable ECON and the purchase intention of refilled products without packaging (PURCH) is not significant, as indicated by the P-value greater than 0.050. The direct relationship between the independent variable PACK and the dependent variable PURCH is not significant either. Meanwhile, the direct relationship between the independent variables FACIL and dependent variable PURCH is significant, as indicated by the P value of less than 0.050.

The direct relationship between the independent variable KNOW and the dependent variable PURCH is also significant. The direct relationship between independent variables ECON and mediating variables Environmental Attitude (ATT) is not significant, and the P-value is 0.126 greater than 0.050. The direct relationship between the independent variable PACK and mediating variable ATT is significant, and the P-value is 0.018, less than 0.050. The direct relationship between mediating variable ATT and the independent variable FACIL is also significant. The direct relation between the independent variable KNOW and mediating variable ATT is also significant.

The role of the ATT as a mediating variable is considered important in the results of the hypothesis test. The direct relationship between ATT as a mediating variable and PURCH as the dependent variable is significant. The P-value shown in Path Coefficient in **Table 4** is equal to 0.000, which was less than 0.050.

**Table 4.** Path Coefficient

Path	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ATT -> PURCH	0.388	0.379	0.087	4.477	0.000
ECON -> ATT	-0.183	-0.156	0.120	1.533	0.126
ECON -> PURCH	-0.013	0.003	0.107	0.123	0.902
FACIL -> ATT	0.189	0.198	0.073	2.589	0.010
FACIL -> PURCH	0.199	0.206	0.076	2.605	0.009
KNOW -> ATT	0.337	0.336	0.076	4.410	0.000
KNOW -> PURCH	0.196	0.202	0.091	2.156	0.032
PACK -> ATT	-0.219	-0.216	0.092	2.384	0.018
PACK -> PURCH	-0.046	-0.048	0.092	0.503	0.615

The indirect relationship between independent variables and dependent variables through mediating variables is expressed in **Table 5**. The indirect relationship between the independent variable ECON and the dependent variable PURCH is not significant. It is indicated by a P-value of 0.144, which is greater than 0.050. The relationship between variable FACIL and variable PURCH through mediating variable ATT is significant. It is indicated by a P-value of 0.019, which is less than 0.050. The indirect relationship



between variable PACK and variable PURCH is also significant; the P-value is 0.04, which is less than 0.050.

**Table 5.** Specific Indirect Effect

Path	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ECON -> ATT -> PURCH	-0.071	-0.060	0.049	1.464	0.144
FACIL -> ATT -> PURCH	0.073	0.074	0.031	2.354	0.019
KNOW -> ATT -> PURCH	0.131	0.128	0.043	3.059	0.002
PACK -> ATT -> PURCH	-0.085	-0.083	0.041	2.058	0.040

The results of the hypothesis test of this study concluded that the relationship between Environmental Attitude and interest in buying unpacked refill products was significant, and the correlation was positive. The direct relationship between the independent variables (Economic, Knowledge, Facility support, and Packaging) on Environmental attitude as a mediating variable is significant except for the Economic variable, which is not significant. Thus, Environmental Attitude is feasible to be used as a mediator variable. The role of the mediating variable is also seen from the influence of the independent variable on the dependent variable, which becomes more significant when it involves the mediating variable than a direct relationship.

The direct relationship of independent variables (Economics, Knowledge, Facility Support, and Packaging) to the dependent variable of buying interest in unpacked products is significant only for the Knowledge and Facility Support variables, while for the Packaging and Economic variables, it is not significant. Associated with the indirect relationship between the independent variables (Economics, Knowledge, Facility Support, and Packaging) and the dependent variable, the interest in buying unpacked products with the Environment Attitude variable as a mediator is significant except for the independent variable, Economic.

## DISCUSSION

Referring to the statistical analysis that has been carried out, several discussions can be taken regarding the interest in buying refilled products without packaging. The test results of the relationship between the independent variables and the dependent variable indicated that not all independent variables in this study could be used as a tool to increase interest in buying refilled products without packaging. This was because several independent variables did not show a significant relationship to the dependent variable, or not all independent variables influenced dependent variables significantly.

**The Environmental Attitude.** The attitude of respondents strongly supports environmentally friendly behaviour; only less than one per cent of respondents do not support environmentally friendly behaviour. All independent variables have a significant relationship with Environmental attitude as a mediating variable. The relationship between Environmental Attitude and the dependent variable is also significant. ATT (Environmental Attitude) as a mediating variable, in general, has succeeded in being a mediator between the independent variable and the dependent variable. It appears that, in general, the relationship between the independent variable and the dependent variable through the ATT mediation variable provides a better significance, which is indicated by a



smaller P value if compared to the direct relationship between the independent variable and the dependent variable.

One of the important roles of the mediating variable is shown by the relationship between the independent variable PACK and PURCH, which is not significant in the direct relationship path, but it becomes significant when the relationship goes through the ATT as a mediating variable. The role of Environmental attitude as a mediator is in line with previous research, which states that to increase interest in buying environmentally friendly products by increasing the role of brands, it must be done by increasing consumer environmental behaviour (Chen and Chang, 2016).

Most respondents in this study agree with the indicators that explain the environmental variable, namely trash management, willingness to become a volunteer and willingness to assist others in treating waste. Less than one per cent of respondents do not agree to treat waste, less than four per cent do not agree to become a volunteer, and less than one per cent do not agree to help others to treat waste. The respondents have encouraging behaviour to support environmental issues. Three indicators that explain environmental attitude have excellent performance, so it needs to be maintained but not a priority to be improved.

**The Facility Support.** The Facility support variable, which includes the availability of physical facilities and the readiness of regulations that support environmentally friendly behaviour, significantly influences the interest in buying refilled products without packaging. A direct relationship is not easy to understand how the availability of trash bins and regulations related to the environment encourage consumers to buy refillable products without packaging. To understand this, it is necessary to discuss the role of the mediating variable, namely Environmental attitude.

The relationship between Facility Support and Environmental Attitude is significant and positive, meaning that Facility Support (such as the availability of physical facilities and the availability of supporting regulations) encourages consumers to have an Environmental Attitude, namely the desire to manage waste and help other parties to manage waste, this is very reasonable.

The relationship between Facility Support and purchase intention through the mediating variable Environmental attitude is also statistically significant and has a positive relationship. The results of this study are in line with previous research, particularly related to the existence of government regulations that support environmental protection. Government regulations have a significant effect on consumer behaviour to be more friendly to the environment (Mulia, D. and Shihab, M.S., 2021).

Thus, increasing consumer buying interest in refilled products without packaging, it can be done by increasing consumers' Environmental attitudes or making consumers more concerned about the environment. To build consumer awareness of the environment, adequate facilities are needed, such as the existence of physical facilities (garbage bins) and the implementation of regulations that support environmental sustainability. Respondents' assessments regarding physical facilities and the readiness of the rules tend to state that they are not sufficient, so the improvement of physical facilities and regulations can be used as the room for improvement. Indicators used to explain the Facility Support variable are FAS1, availability of separated trash bins, to split among rubbish organic and inorganic.

It expressed that less than six per cent of respondents stated that the availability of separate trash bins is low. The indicators' performance (FAS1) is satisfactory and does



not require improvement but needs to be maintained. The indicator FAS2, availability of the space to manage the trash, most respondents perceived that the area is not sufficient. Most respondents perceived that indicator FAS3, the availability of the governing rules to protect the environment, has not been in place yet. Basically, the regulation related to the environment are available; however, the implementation is not effective, particularly related to the implementation of sanctions for the violation.

The respondents perceived that the existing performance of indicators FAS2 and FAS3 is not supporting environmental issues. Since the influence of variable Facility Support is significant and positive to purchase intention, the improvement of the performance indicators FAS2 and FAS3 will increase the purchase intention of customers to buy the environmentally friendly product (green product).

**The Economic Aspect.** The results showed that economic aspects did not significantly influence the purchase intention of refilled products without packaging either directly or through environmental attitude as a mediating variable. Product prices and packaging quality, which are dominated by plastic materials, are not significant considerations for consumers in deciding to buy environmentally friendly products (green products).

The results of this study related to the economic aspect are not in line with previous researchers who stated that the economic aspect is one of the factors that have a significant influence on motivating environmentally friendly behaviour (Zamroni et al. 2020). This difference may be caused by differences in the characteristics of the respondents; therefore, the characteristics of respondents related to economic aspects need to be considered.

The study indicates that the economic aspect is not significant in influencing purchase intention, and the performance of economic indicators is not crucial for discussion. The result of this study, in line with the previous research conducted by (Lin et al., 2017), indicates that consuming a green product has become a lifestyle regardless of the price of the product. Particularly for customers who live in urban areas with sufficient income, not taking into account the price of a green product. The result of this study regarding the influence of the economic aspect on to purchase intention of the unpacked product is reasonable since the respondents are living in an urban area.

**Customers' Knowledge.** The relationship between knowledge (customers' knowledge about environmental issues) and interest in buying refilled products without packaging (purchase intention of unpacked products) is significant and positive either directly or through the mediating variable of Environmental attitude. It means the influence of customers' knowledge to purchase intention is considerable, and the improvement of customers' knowledge leads to an improvement in purchase intention.

Consumers' knowledge regarding the importance of environmental aspects encourages consumers to buy environmentally friendly products. Consumer knowledge also encourages consumers to behave in a more environmentally friendly or improve their Environmental attitude.

One way to increase interest in buying refillable products without packaging is to increase consumer knowledge regarding the environment, the dangers of pollution and the dangers of plastic waste. Efforts to increase consumer knowledge can be carried out with a campaign to reduce plastic waste or a campaign about the dangers of environmental pollution. This research shows that the respondent's knowledge regarding environmental aspects is sufficient.



The results of this hypothesis test are not in line with previous research, which states that the direct influence of knowledge on PEB is not significant, meaning that it does not guarantee that consumers who have environmental knowledge will Pro-Environmental Behavior, but the role of new knowledge is significant when it is bridged by the existence of environmentally friendly products (Mulia et al., 2021).

This difference naturally occurs because the previous research did not specify the type of product being discussed, while in this study, it was clear that the product was unpacked. Indicators that explain knowledge variable as knowledge about the danger of plastic waste (KNW1), knowledge related to the impact of damage environment with climate (KNW2), and knowledge to resolve the damage to the environment (KNW3) is perceived as adequate by the respondents. Less than one per cent of respondents perceived that has a lack of information, while the rest considered already had a piece of sufficient knowledge. The performance of indicators is favourable to the environmental aspect. It does not need improvement but needs to be maintained.

**The Packaging.** The direct relationship between product packaging and purchase intention is not significant, but the existence of product packaging has a significant effect on purchase intention when there is a mediating variable, namely Environmental attitude.

The relationship between packaging and interest in buying products without packaging is negative or inverse, meaning that the higher the consumer's assessment of the benefits of packaging, the lower the interest in buying refilled products without packaging.

Following the indicators used in the Packaging variable, what consumers pay attention to regarding packaging is product and brand information which is usually listed on the packaging. Consumers need to know information related to products sold without packaging. Although in the buying process, consumers will bring their containers (packaging), product brands, and other information that is of concern to consumers is still needed.

The results of this study follow previous research, which stated that it is estimated that the average consumer will skim information in only about 15 seconds. If the information has been able to meet the needs, consumers continue to read further. Packaged printed information gets 30 per cent of more attention as long as it is designed and presented properly. Packaging with printed information also encourages more consumers to prefer products, and thus printed packaging helps brands maintain business and achieve brand loyalty. (Sumner, 2017).

Printed packaging offers many opportunities, and the brands listed on the packaging can generate interaction and communication with consumers. If the producer can convey information regarding the brand, expiration date, composition, or other information on other printed media that is not on the packaging, then there is a possibility that consumers can accept refilled products without packaging (unpacked product). Indicators of the packaging variable are related to the purpose of packaging, such as to protect the product (PACK1), convey information related product (PACK2), and convey the brand (PACK3). Those indicators are considered crucial by more than 80 per cent of respondents, while the rest perceived neutral, and less than three per cent of respondents perceived that packaging is not needed.





## CONCLUSIONS

This study reveals that the Environmental Attitude variable plays a substantial role as a mediator variable. Thus the relationship between the independent variables (Knowledge, Facility Support, Economic Aspects, and Packaging) and the dependent variable (interest in buying unpacked products) through the mediator variable needs to be considered.

The study succeeded in revealing the relationship between the independent variables Knowledge, Facility Support, Economics, and Packaging on the interest in buying refilled products without packaging either directly or through the mediating variable Environmental attitude.

The relationship between consumer's knowledge about the environment and interest in buying refilled products without packaging (unpacked products) is positive and significant both directly and through mediating variables (Environmental attitude), as well as the relationship between the availability of supporting facilities and interest in buying refillable products without packaging is positive and significant either directly or through the mediating variable.

Another thing is that the relationship between economic aspects and interest in buying refillable products without packaging is not significant either directly or through mediating variables. At the same time, the relationship between the role of packaging and the purchase intention of refilled products without packaging is negative. It is not signed directly but is significant through the mediating variable. Negative means that the effort to eliminate the role of packaging in unpacked products is contrary to the function of packaging that customers expect.

**Practical Advice.** The results of the evaluation of respondents' answers to the questionnaire for each indicator used and by considering the significance of the relationship between variables, several strategic steps can be made to increase consumer buying interest in refillable products without packaging, including increasing facility support, both physical facilities and government regulations, This is because most of the respondents said that the current support facilities were not adequate. The next step is to activate campaigns related to the dangers of waste to the environment and its consequences for the sustainability of a healthy life. Although, at this time, the knowledge of most respondents is sufficient, considering the relationship between knowledge and purchase intention, either directly or indirectly, is significant, and the quality of knowledge must be considered. Continue to be maintained. Another thing that needs to be done is related to packaging; considering the role of packaging as a means to convey information related to the products and brands is considered important by most respondents. For respondents to be interested in buying refilled products without packaging, the information that is usually listed on the packaging needs to be conveyed in other forms of media, for example, conveyed on the container of the product at the point of sale, which can be read by consumers when buying the product.

**Suggestions for further research.** The characteristics of respondents in this study are not well balanced both in terms of gender and age group, and it is better if the characteristics of respondents can be obtained with a balanced composition of various demographic aspects such as gender, education, age, and income. Related to the influence of the economic aspect on consumer behaviour to be more environmentally oriented is a crucial topic to be studied further. Although the number of respondents in this study was



sufficient for data analysis purposes, it would be better if the number of respondents could be increased to close to ten times the number of indicators, which is around 180 respondents.

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