

# Sustainable Packaging's Effect on Millennial Green Purchase Decision in Indonesia

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**How to cite this paper:** Guo, C. Y., Ramadhan, S. F., Clarita, & Hendijani, R. B. (2023). Sustainable Packaging's Effect on Millennial Green Purchase Decision in Indonesia. *Open Journal of Business and Management*, 11, 1723-1744.  
<https://doi.org/10.4236/ojbm.2023.114097>

**Received:** May 8, 2023

**Accepted:** July 18, 2023

**Published:** July 21, 2023

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## Abstract

Sustainability concerns continue to rise for Indonesians, as they are the second-largest country, after China, responsible for the million metric tons of plastic waste in the ocean, which are mostly single-use plastic packaging, making non recyclable packaging one of the biggest threats to their environment. Millennials, as the current largest age population in Indonesia, are shown to be the most ecologically aware of these issues. However, it is still unclear whether Indonesian millennials have actively made decisions to switch their purchases to sustainably packaged products, as prior research in Indonesia has yet to focus on this. Hence the research's objective is to determine the factors of sustainable packaging that affects green purchase decision (GPD) in Indonesian consumers. Data was collected using a self-administered online survey; there were 150 usable responses that were analyzed using PLS SEM method. The findings of this research reported a significant and positive impact between green attitude, perceived environmental responsibility, green product experience, and environmental friendliness of companies to GPI, as well as GPI to GPD. These findings offer implications for marketing managers and product developers to further understand green consumers and develop strategies in relation towards green product packaging.

## Keywords

Sustainable Packaging, Theory of Planned Behavior, Green Purchase Decision, Indonesia, Millennials

## 1. Introduction

Nowadays, sustainability has become a very important topic for consumers and businesses. *Servera-Frances et al. (2020)* mentioned that sustainable practices lead to higher customer commitment with the business' brand. *Chen & Chai (2010)* stated that this is caused by consumer consumption of goods and services

has increased tremendously across the world over the last decade, leading to depletion of natural resources and severe damage to the environment. According to [Butler \(2018\)](#), this led to customers becoming better informed and more aware of the impact of products, thus demanding businesses improve the environmental performance of their products through sustainable practices. [Jeanrenaud et al. \(2017\)](#) stated that the strong model of sustainability recognizes nature as the first and most important domain because it is an exhaustible resource, and without nature, there will not be a social domain and an economic domain, as there is no business to be done on a dead planet. Consequently, the green purchase is very crucial.

These green purchases are done by green consumers, these are consumers who have the intention to purchase and decide to purchase green products and have the desire or expression of one's intention to commit to activities that support environmental friendliness ([Mansvelt & Robbins, 2011](#)). The increase in consumers' awareness towards the environment is paired with the consumers' intention in buying eco-friendly products, because those consumers know that environmentally responsible purchasing has a direct impact on minimizing or maximizing ecological problems ([Kotler, 2014; Joshi & Rahman, 2015](#)).

[Boz et al. \(2020\)](#) explained that packaging has become one of the integral functions of sustainability; this includes packaging that uses less waste, incorporates recycled material and may be recycled when empty. This is supported by [Unilever's \(2017\)](#) research, which has uncovered that the public has high expectations of brands when it comes to having a positive social and environmental impact, more than one in five (21%) of the sampled population said they would actively intend to purchase brands if their sustainability credentials were clearer on their product packaging. As sustainable packaging becomes an important topic worldwide, Indonesian consumers are also becoming aware of this issue. This is shown in a study done by [Food Ingredients Asia \(2021\)](#) that found that Indonesian consumers want brands to be taking a more proactive approach to sustainability pledges, especially when it comes to issues such as packaging sustainability and recycling.

Millennials have shown great interest in these ecological issues, which even remained their biggest global concern for three years in a row ([World's Economic Forum, 2017; IDN Times, 2020](#)). As the millennial population significantly increases, which was forecasted to be 35% of the Indonesian population (63.5 million out of 179 million people in Indonesia), their generation is deemed to have a greater influence on business, political and social contexts than other generations ([IDN Times, 2020; Kurniawan, 2020](#)). Based on the data presented above, it can be concluded that millennials' growing numbers and high rate of ecological awareness implies that millennials will have an important role in leading the growing green movement in Indonesia.

However, although the importance of sustainability as a baseline to strategic success is now well established both in the literature and in practice, our understanding of how packaging sustainability relates towards purchases still appears

unclear. Prior research has yet to focus on sustainable packaging in relation to green purchase decision, instead generalizing it under the green marketing concept, which is an overall method to promote green products (Kumar & Ghodeswar, 2015; Yan et al., 2012). Especially now, with the demand for sustainable packaging being so high in Indonesia, it is important for companies to understand the benefits that may come with the knowledge of the consumer's behavior in relation to sustainable packaging.

Hence, the purpose of this research is to determine whether green attitude, perceived environmental responsibility, green product experience, subjective norm and environmental friendliness of companies are factors that affect the intention and purchase decision of sustainable packaging. This research also implements the Theory of Planned Behavior (TPB) to support studies in Indonesian Millennials due to the capacity to more accurately predict and explain consumer behavior and intentions using five TPB constructs, which include green attitude, perceived environmental responsibility, subjective norms, green purchase intention, and green purchase decision, with the addition of two constructs which are green product experience and environmental friendliness of companies (Kumar & Ghodeswar, 2015; Yan et al., 2012). Moreover, these motives are hoped to assist in helping companies further understand green consumer behavior and the importance of sustainable packaging so that they may create better marketing strategies and product packaging.

## 2. Literature Review and Research Hypothesis

### 2.1. Theory of Planned Behavior

The Theory of Planned Behavior is a staple baseline used by many researchers, as it is known to be the best model to predict purchase decisions (Maichum et al., 2016; Yadav & Pathak, 2016; Warganegara & Hendijani, 2022). In environmental and sustainability research, TPB has been often utilized to describe intentions to predict human behavior (Kamalanon et al., 2022; Maichum et al., 2016; Zhang et al., 2019). Maichum et al. (2016) had used it to increase knowledge of Thailand consumers in regard to green purchase intention, whilst Rezai et al. (2012) utilised TPB to enhance their research on showing consumer's intention to adopt green food consumption as a way to adopt green products.

Müller et al. (2021) mentioned that the intention to purchase green products were perceived from social norms, green attitude, and perceived control. Zhang et al. (2019) supported this by stating that attitude and social norms had positive and significant effects on purchase intention for green household and clothing products. In addition to that, Kamalanon et al. (2022) found that green attitudes and environmental concern influences consumers' intention to purchase green products, and future sales can be supported by having a positive sustainable image of the company.

The previous research stated above indicated that the Theory of Planned Behavior has affected the way consumers purchase green products (Kamalanon et

al., 2022; Maichum et al., 2016; Zhang et al., 2019). Consumers have the attitude, beliefs and perceived behavioral control which leads to the intention in purchasing sustainable products. Therefore, the theory of planned behavior is adopted in this research, serving as the theoretical framework, and further extended by incorporating environmental responsibility and environmental friendliness of companies as additional constructs.

## 2.2. Sustainable Packaging and Millennial Waste Awareness in Indonesia

In the era of globalisation and rapid technological advancements, green marketing and sustainability have become an integral part of people and businesses worldwide, as there continues to be a heightened ecological awareness of consumers today (Naidoo & Verma, 2020). Green marketing can be defined as a promotion strategy of developing and advertising products that are assumed to be environmentally friendly, including advertising the reduced emissions associated with a product's manufacturing process, or the use of post-consumer recycled materials for a product's packaging (Fernando, 2021; Yazdanifard & Mercy, 2011). Sustainable packaging is a form of packaging that is a crucial aspect of delivering sustainable products, as it promotes environmental protection and conservation means to carefully use the resources on the planet, without compromising for future generations (Hellstrom & Olsson, 2017). The implementation of sustainable practices will help minimize our impact on the environment and conserve resources for future generations (Gadhawe, Das, Mahanwar, & Gadekar, 2018).

Naidoo and Verma (2020) explained that green consumers have needs, wants and concerns which are important to understand to gain a clearer picture about their consumer behaviour. Out of all the generations, millennials are the most environmentally conscious generation, this leads them to implement an eco-friendlier lifestyle, with activities such as green purchasing, goods disposal, and demands for companies to implement programs that improve the environment (Fauzi, 2019; Parung, 2019; Nielsen, 2018).

This awareness, according to Jambeck et al. (2015), was brought by the growing concern towards waste that has accumulated in Indonesia, as Indonesia is positioned as the second-largest country, after China, who is deemed responsible for the million metric tons of plastic waste in the ocean, with 40% of the plastic waste produced coming from one-time use packaging. Some previous surveys have also concluded that Indonesian consumers have high concern when it comes to packaging waste, such as in a study done by Feber et al. (2021) that found that Indonesia is one of the top three countries in the world, next to India and China, that indicated the highest level of concern towards packaging waste, as well as most willingness to pay for sustainable packaging. Another survey conducted by Nielsen (2018) found that Asia Pacific countries, including Indonesia, consisted of the second largest consumers, who think that packaging waste

is a very concerning issue.

For the purpose of this research, environmental protection of sustainable packaging is defined as packaging that is made with material that is recyclable and can be used again and again, including packaging that are able to fulfill three main criteria, which are: sustainability (recyclability, compostability and reusability), performance (Whether the sustainable packaging is able to fulfill the standard packaging's job), and sortability (Whether or not the packaging is easily sorted and recycled in the nearest facility) (Ahmed, 2018; Leahy, 2020).

### 2.3. Green Attitude

According to Tsen et al. (2006), attitude is among factors that play a major role in predicting intentions of consumers who will pay for green products. Supporting environmental protection is one of the key reasons for consumers to behave environmentally friendly in their purchase intentions, and consumers who have higher green attitudes are more ready than others to change their behaviour and explore green product alternatives (Gadanne et al., 2011; Trivedi et al., 2018; Lee, 1990). Attitudes are likely to reveal a psychological assessment of the product by the consumer, hence these concerns push consumers to look for environmentally beneficial attributes related to product design and product usage, such as in the product's packaging that cause lesser impact on the environment and create meaningful differences in environmental protection (Kumar & Ghodeswar, 2015; Maichum et al., 2016).

A positive impact between attitude and behavioural intention has been established in various previous studies regarding green products (Kim & Han, 2010; Kumar & Ghodeswar, 2015; Maichum et al., 2016; Suki, 2014). Former green marketing studies have also noted that consumers' positive attitude towards green products could influence their purchase intention (Chang & Wu, 2015; Laroche et al., 2001). Because these previous research focused only on green marketing, to further understand the impact between these two variables in specific relation towards sustainable packaging, this hypothesis is proposed:

H<sub>1</sub>: The green attitude of consumers towards sustainable packaging has a significant and positive impact on the green purchase intention of consumers.

### 2.4. Perceived Environmental Responsibility

According to Zheng et al. (2021), perceived environmental responsibility relates to an individual's feeling of duty to safeguard their environment and ensure that their daily activities have no negative impact on the ecosystem or other. Gadanne et al. (2011) stated that the drive for environmental responsibility is related to consumers' personal commitment towards environmental protection issues and their individual-level activities intended to improve the quality of the environment. Realising the adverse impact of the environment on human and other living-beings, consumers understand their individual responsibilities towards environmental protection. Lee et al. (2009) established that consumers feel

emotionally involved with environmental protection issues and believe that they can individually contribute towards environmental protection by adopting environmentally favourable activities at individual levels.

Environmental responsibility has proven to be an important part of environmental studies, as previous research has shown that the purchasing of green products closely relates to environmental responsibility, which includes personal values and beliefs that are shaped by an individual (Moisander, 2007; Pedersen & Neergaard, 2006). According to Wijekoon and Sabri (2021), in this regard, a consumer's feeling of responsibility regarding the environment is supposed to affect the likelihood of consumers' intending to green purchase. Based on the literature review, responsibility has an influence towards intention to purchase green products, hence, this hypothesis is proposed:

H<sub>2</sub>: Drive of environmental responsibility has a significant and positive impact on the green purchase intention of sustainably packaged products.

## 2.5. Green Product Experience

Perceived ease of use refers to an individual's perceived ease or difficulty in performing a particular behavior. Consumer's experiences in relation green products is another important variable, as the knowledge that builds from that experience plays a crucial role in making a decision about green purchase, as it is related to consumers' inquisitiveness to gain knowledge about environmental aspects of green products, leading towards their intention to purchase (Kumar & Ghodeswar, 2015; Naidoo & Verma, 2019).

Although, some previous research found that there was no significant direct effect of environmental experience towards green purchase intention (Indriani et al., 2019). Hence, the following hypothesis is proposed:

H<sub>3</sub>: Green product experience in sustainably packaged products has a significant and positive impact on the green purchase intention of sustainably packaged products.

## 2.6. Subjective Norms

Subjective norm is the opinion of an individual that has an influence in one's decision making, hence it closely correlates towards the social aspect of that individual's life (Maichum et al., 2016; Zheng et al., 2021). Consumers are always known to be a part of a community or a social group, where they receive and share information, and know what others think for a particular product, then evaluate the products based on the comments and opinions of others and act in accordance with the societal benefits (Escalas & Bettman, 2005; Sreen et al., 2018). Kumar et al. (2019) stated that because of this, individuals with collectivistic values place more importance to society than themselves so that they can maintain a jovial cord with the society.

Previous research has indicated that subjective norms, which are also known as social influences and social appeal, exert a positive effect on a consumer's

green purchase intentions, making it more appealing for consumers to make a purchase decision on environmentally friendly products (Yan et al., 2012; Moons & De Pelsmacker, 2012; Kumar & Ghodeswar, 2015; Wang, 2014). As most sustainably packaged products are promoted as products that will benefit the society and the environment, the social appeal of these products is generally high (Sreen et al., 2018; Wang, 2014; Boz et al., 2020).

Hence, this hypothesis is proposed:

H<sub>4</sub>: The subjective norm factors of sustainably packaged products have a significant and positive impact on the green purchase intention of consumers.

## 2.7. Environmental Friendliness of Companies

According to Naidoo and Verma (2019), many companies in this era are using deceit-marketing tactics called “green-washing” to make themselves seem more environmentally friendly, with the objective to enhance their market share base, profitability, brand equity, increase brand loyalty, increase their sales volume, and expand brand equity at the expense of millennials’ ignorance.

Laroche et al. (2001) argued that while making their purchase decisions, green consumers are more likely to be informed of which companies are genuine, refuse buying products from companies accused of being polluters, and even boycott the companies who do not follow environmental regulations or who take advantage of the green movement using green washing to increase sales.

Chen et al. (2020) stated that the company who has green products, the consumers more likely to choose the company, it also can increase the company’s brand loyalty, and argue that it has an indirect positive relationship between green brand loyalty and green purchase intention, besides, this study indicates that green brand associations and green brand attitude fully mediate the impact between green brand affect and green purchase intentions.

Hence, this hypothesis is proposed:

H<sub>5</sub>: The environmental friendliness of a company who uses sustainable packaging has a significant and positive impact on the green purchase intention of consumers.

## 2.8. Green Purchase Intention

Chen and Chang (2012) defined green purchase intention as a prior state of mind before an actual purchase, that embodies the likelihood that a consumer would buy a particular product resulting from his or her environmental needs. While Kashif and Rani (2021) stated purchase intention of products with environmentally friendly packaging shows the willingness to then purchase sustainably packaged products. Hence, green purchase intention is an important factor in determining whether or not a consumer will decide to purchase the product.

According to previous research on green purchase intention, consumers tend to purchase green or sustainable products based on five factors, which include green attitude, perceived environmental responsibility, green product expe-

rience, subjective norms, and environmental friendliness of companies (Kumar & Ghodeswar, 2015; Nguyen et al., 2019). This research combines these frameworks, with the addition of TPB, to determine whether or not there is a significant impact between these factors towards green purchase intention, and how strongly that affects green purchase decision.

## 2.9. Green Purchase Decision

Kotler and Armstrong (2006) defined purchase decision as the buyer's decision about which brand or product to purchase. Essoussi and Linton (2010) explained consumers considering environmental concerns while making purchase decisions are sighted to be involved in green purchases, mentioning green consumers are those who evaluate materials and ingredients of products before purchase, so they can support the environmental benefits by having less lethal and recyclable products.

Nguyen et al. (2019) stated that the investigated relationship between green purchase intention and green purchase behaviour in western countries has been saddled with mixed results. Although there are some studies that indicated a strong relationship between the two (Bamberg & Moser, 2007; Rezaei & Amin, 2013), another researcher found the link to be either weak or non-existent (Akehurst et al., 2012). Considering this, it has been hypothesised that:

H<sub>6</sub>: Green purchase intention has a significant and positive impact on green purchase decisions.

From the explanation above, the research model is created and presented in Figure 1.

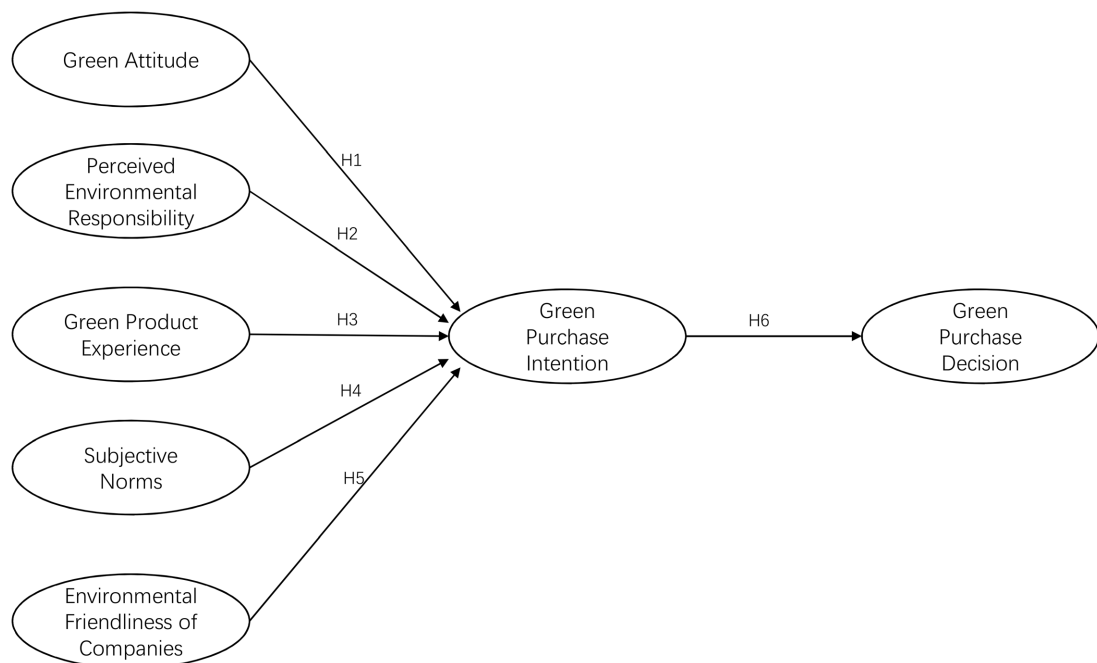


Figure 1. Research model.



### 3. Methodology

This study uses a quantitative approach to test the impact of the variables presented in this research framework through the hypothesis (Kumar & Ghodeswar, 2015). This is supported by previous studies who have successfully measured factors affecting green purchase intention (Kumar & Ghodeswar, 2015; Rajendran & Wahab, 2017) and green purchase intention towards green purchase decision (Trivedi et al., 2018) using quantitative approaches. Thus, this study uses quantitative data in the hopes to objectively determine the impact of sustainable packaging on green purchase behaviour in millennial Indonesian consumers.

Data used in this study were collected using a questionnaire-based online survey, to enable the researcher to gather data from a wider geographical range, as well as to objectively measure each instrument and impact of variables (Kumar & Ghodeswar, 2015). This is also supported by previous researchers who have also evaluated environmental behaviour based on the self-reported claims in response to the questionnaire items (Kumar & Ghodeswar, 2015; Nguyen et al., 2019).

The population of this study is millennials (individuals born in 1981-1996) in Indonesia. The sampling method is carried out in a non-probability manner using a purposive sampling technique; this technique is used because there is specific criteria needed from the population and the population will also respond more quickly as compared to people randomly selected, because they have a high motivation level to participate. The sample will be taken from 150 respondents. Prior to final data collection, a pilot test to examine the validity and reliability of the questionnaire was conducted with 25 respondents. The results and comments from these respondents were used to improve the ease of which the respondents understood the questionnaire.

The items of questions in the questionnaire are based on the variables studied and previous literature, which was then modified by the researchers and adjusted with regard to the validity of the content. A total of seven constructs were used, including Green Attitude (GA) with five items (Kumar & Ghodeswar, 2015; Puspitasari et al., 2018), environmental responsibility (ER) with five items (Kumar & Ghodeswar, 2015; Puspitasari et al., 2018; Ringler, 2012), green product experience (GPE) with four items (Puspitasari et al., 2018; Trivedi et al., 2018), social appeal (SA) with four items (Kumar & Ghodeswar, 2015; Puspitasari et al., 2018) and environmental friendliness of companies (EFC) with five items (Kumar & Ghodeswar, 2015; Nguyen et al., 2019) served as independent variables, intention to purchase sustainable packaging was used as a mediating variable (IP) with four items (Chen & Chang, 2012; Kumar & Ghodeswar, 2015; Puspitasari et al., 2018), and green purchase decision (GPD) acted as the dependent variable with three items (Kumar & Ghodeswar, 2015; Puspitasari et al., 2018; Trivedi et al., 2018). These variables are then placed in the online based questionnaire, which consist of seven sections to measure each variable. To ensure that respondents were qualified, two filtering questions were asked before

participants were able to access the survey (i.e. “are you a millennial?” and “have you purchased any sustainably packaged products recently?”). All items were measured using Likert Scale, ranging from 1 - 5 points to indicate how strongly the respondent agrees and disagrees with a series of statements regarding the research topic. Questionnaires will focus on several scales which include green attitude, perceived environmental responsibility, green product experience, subjective norm, environmental friendliness of companies, green purchase intention, and green purchase decision. The scale written has several statements to measure how sustainable packaging influences millennial’s green purchase decision starting from their awareness until the decision to purchase green products. The development of the questionnaire is displayed in **Table 1**.

SPSS (23.0) was used for descriptive analysis to find out the demographic characteristics of the samples. Cronbach’s  $\alpha$  coefficient was adopted to test the reliability of the measurement items. Then, to ensure that the objective of the research can be obtained, Partial Least Squares (PLS), an approach to Structural Equation Models (SEM) through SmartPLS-3 was used to test the hypotheses of this research. The sample size used to test the model in PLS was determined by determining the greatest number of formative constructs or the greatest number of antecedents leading to that construct (Thompson & Barclay, 1995). The minimum sample size was calculated by multiplying the larger value by 10. The highest number of arrows pointing to behavioral purpose was five. Therefore, the minimal sample size was 50, and 150 respondents were sufficient to evaluate the data in PLS (Warganegara & Hendijani, 2022). In this study, the questionnaire link was distributed through Whatsapp, Instagram and Facebook to Indonesian millennials who have had previous experience in purchasing green products. Data was collected from May to June 2022. Out of 187 questionnaires distributed, there were 150 usable responses gathered, which succeeded in attaining the minimum requirement of 50 respondents for structural equation modeling (SEM) as mentioned previously.

#### 4. Result

Descriptive statistics of the measurement items are provided in **Table 2**, including the mean values of green attitude, perceived environmental responsibility, green product experience, subjective norms, environmental friendliness of companies, green purchase intention, and green purchase decision. These characteristics will examine how individuals with different characters are looking in areas related to green purchase decisions.

It shows various kinds of characteristics to fulfill the confidence of the sample data taken. Cronbach’s  $\alpha$  and Composite Reliability (CR) were calculated for reliability, the results of the Cronbach’s  $\alpha$  test ranged from 0.712 to 0.868, whilst the CR test showed results that varied from 0.836 to 0.923, all of which were beyond the recommended amount of  $>0.7$ . Rho\_A is then used to measure internal consistency of scale items like Cronbach’s  $\alpha$ . Nayak & Hasija (2021)

**Table 1.** Questionnaire development.

Scale	Source
<b>Green Attitude</b>	
I strive to learn as much as possible about products with environmentally friendly packaging.	Kumar & Ghodeswar, 2015; Puspitasari et al., 2018
I have information about products with environmentally friendly packaging.	
I have information about environmentally friendly packaging material.	
I prefer products with environmentally friendly packaging, even if it is more expensive.	
<b>Perceived Environmental Responsibility</b>	
I often think about the worsening quality of the Indonesian environment.	Kumar & Ghodeswar, 2015; Puspitasari et al., 2018; Ringler, 2012
I should be responsible for protecting the environment.	
I intend to switch to more products with environmentally friendly packaging.	
I look for products with environmentally friendly packaging whenever I am shopping for my routine products.	
I believe that products with environmentally friendly packaging can help the Indonesian environment.	
<b>Green Product Experience</b>	
I have experience in purchasing products with environmentally friendly packaging.	Puspitasari et al., 2018; Ringler, 2012; Trivedi et al., 2018
I know where to purchase products with environmentally friendly packaging.	
I have experience in showing which packaging materials are environmentally friendly.	
I share my green product experience with my friends.	
I know which products have environmentally friendly packaging.	
<b>Subjective Norm</b>	
I always discuss environmental issues with my peers and family members.	Kumar & Ghodeswar, 2015; Puspitasari et al., 2018
I learnt about packaging waste issues from my peers and family members.	
I learnt about products with environmentally friendly packaging from my peers and family members.	
Supporting environmental issues makes me more socially attractive.	
<b>Environmental Friendliness of Companies</b>	
I refuse to buy any green products from companies who are accused of being polluters.	Kumar & Ghodeswar, 2015; Nguyen et al., 2019; Puspitasari et al., 2018
I will tell others not to support companies that are accused of being polluters.	
I feel good about buying products with environmentally friendly packaging from companies which are less damaging to the environment.	
Companies who use environmentally friendly packaging are always reliable.	
<b>Green Purchase Intention</b>	
I prefer buying products with environmentally friendly packaging.	Chen & Chang, 2012; Kumar & Ghodeswar, 2015; Nguyen et al., 2019
My willingness to buy products with environmentally friendly packaging is high.	
I intend to purchase products with environmentally friendly packaging if the company keeps promises and commitments regarding sustainability.	
I intend to suggest that my friends and family purchase products with environmentally friendly packaging.	
<b>Green Purchase Decision</b>	
I often decide to purchase products with environmentally friendly packaging.	Kumar & Ghodeswar, 2015; Puspitasari et al., 2018; Trivedi et al., 2018
I purchase products with environmentally friendly packaging whenever possible.	
When I have two choices for the same product I prefer to purchase the products with environmentally friendly packaging.	

**Table 2.** Sample characteristics.

Items	Classification	Frequency	Percentage
Gender	Female	94	63.1
	Male	55	36.9
Marital Status	Single	76	51
	Married	68	45.6
	Divorced/Widowed	5	3.4
Education	High School/Below	26	17.4
	Diploma	8	5.4
	Bachelors	97	65.1
	Masters or Ph.D.	18	12.1
Occupation	Student	29	19.5
	Self Employed	39	26.2
	Government Employee	18	12.1
	Professional	53	35.6
	Housewife	6	4
	Unemployed	4	2.7
Level of Income	<3.5 Million/Month	31	20.8
	3.6 - 5 Million/Month	15	10.1
	5 - 10 Million/Month	25	16.8
	10 - 20 Million/Month	49	32.9

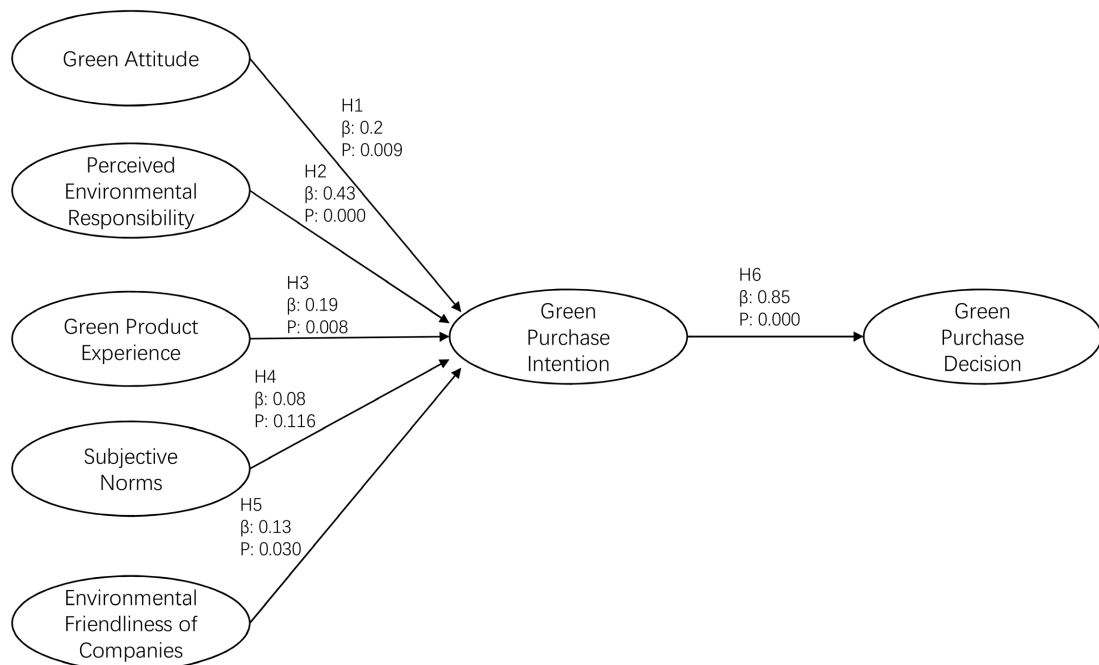
emphasizes that the value of Rho\_A must meet the threshold value of 0.70. The results of Rho\_A calculation shows that the value is between 0.790 and 0.897, which indicates that all the seven contexts exhibit sufficient levels of internal consistency.

Lavuri (2021), states that composite reliability, factor loading, and average variance extracted (AVE) are used to determine convergent validity. Thus, to test the measurement model, Hair et al. (2015) states that the factor loading should be greater than 0.700. Therefore, as all standardised factor loadings were significant ranging from 0.704 to 0.970, it can be concluded that the seven constructs are all valid. The result of Average Variance Extracted (AVE) is ranging from 0.561 to 0.73, all surpassing above the minimum requirement of 0.5, which indicates that the items are valid. Then, to confirm the results, a confirmatory factor analysis was conducted. All items exceeded the recommended low factor loading value, which is <0.7. These findings are consistent with the agreed range proposed by Hair et al. (2015), thus it can be concluded that convergent validity was confirmed. Discriminant validity was also tested based on Fornell & Larcker (1981) criterion. As shown in Table 3, the square root of AVE was greater than its correlation with other constructs, which are consistent with the criterion, determining that discriminant validity is established.

**Table 3.** Descriptive statistics, reliability and validity.

Construct	Mean	SD	Item	Loading	Cronbach's $\alpha$	RhoA	Composite Reliability	AVE
Green Attitude	4.054	0.918	GA1	0.831	0.822	0.826	0.883	0.653
	3.792	0.998	GA2	0.787				
	3.752	1.009	GA3	0.842				
	3.846	0.981	GA4	0.770				
Perceived Environmental Responsibility	4.034	0.958	ER1	0.717	0.839	0.846	0.886	0.610
	4.195	0.910	ER2	0.817				
	4.074	0.956	ER3	0.822				
	3.745	0.963	ER4	0.717				
	4.188	0.930	ER5	0.824				
Green Product Experience	4.094	0.929	GPE1	0.774	0.844	0.799	0.853	0.593
	3.671	0.908	GPE2	0.801				
	3.611	1.008	GPE3	0.747				
	3.591	1.123	GPE4	0.729				
	3.799	0.919	GPE5	0.865				
Subjective Norm	3.295	1.071	SN1	0.786	0.778	0.799	0.853	0.593
	3.430	1.088	SN2	0.783				
	3.369	1.101	SN3	0.713				
	3.685	1.017	SN4	0.795				
Environmental Friendliness of Companies	3.356	1.124	EFC1	0.717	0.752	0.790	0.836	0.561
	3.403	1.152	EFC2	0.788				
	3.980	0.908	EFC3	0.775				
	3.617	1.027	EFC4	0.712				
Green Purchase Intention	4.047	0.862	GPI1	0.876	0.896	0.897	0.928	0.763
	3.893	0.963	GPI2	0.856				
	4.040	0.889	GPI3	0.866				
	3.919	0.916	GPI4	0.894				
Green Purchase Decision	3.933	0.946	GPD1	0.885	0.830	0.835	0.898	0.746
	4.007	0.909	GPD2	0.868				

After analysing the measurement model, the causal relationships among the hypotheses were then tested using structural equation modelling (SEM). PLS-SEM uses bootstrap to generate samples with 95% confidence, and for this research, bootstrapping was carried out with 500 samples (Nguyen et al., 2019; Warganegara & Hendijani, 2022), and the results indicate that all hypotheses are positive except for subjective norms. **Figure 2** depicts the path coefficients and significance levels.



**Figure 2.** Path coefficients of the model.

$R^2$  is used to assess structural model prediction, as it is used to interpret the variance in the dependent variable explained by the independent variable. Hair et al. (2015) suggested using the rule of thumb in regards to  $R^2$  values, which are values of 0.75 (Substantial), 0.50 (Moderate), or 0.25 (weak). Based on the data shown on Table 4, the model allocates 72% of the variance on actual behaviour and 78% of variance to intention. Thus, all  $R^2$  values are statistically substantial. Another relevant aspect of the structural model's evaluation correlates to its ability to predict future behaviours. This is done by utilising the Stone-Geisser  $Q^2$  method, which was measured using a blindfolding process on SmartPLS with a d-value of 7. According to Maichum et al. (2016), Q-square values above zero indicate that the values of the research are well reconstructed and that the model has predictive relevance. The results in Table 5 show that all latent variables have a  $Q^2$  value greater than zero, which concludes that these variables do have predictive capabilities.

The hypothesis results in Table 6 show the followings results: GA → GPI ( $\beta: 0.20$ ;  $t: 2.62$ ;  $p: 0.009$ ), ER → GPI ( $\beta: 0.43$ ;  $t: 6.47$ ;  $p: 0.000$ ), PER → GPI ( $\beta: 0.19$ ;  $t: 2.67$ ;  $p: 0.008$ ), EFC → GPI ( $\beta: 0.13$ ;  $t: 2.17$ ;  $p: 0.030$ ), GPI → GPD ( $\beta: 0.85$ ;  $t: 25.57$ ;  $p: 0.000$ ). The results show that one hypothesis was rejected: Social Norms → Intention ( $\beta: 0.08$ ;  $t: 1.57$ ;  $p: 0.116$ ).

The result of this study supports the positive association between green attitude and green purchase intention ( $H_1$ ). These results are comparable to previous research in the case of green marketing, including in Thailand (Maichum et al., 2016) and India (Kautish & Sharma, 2019), where both studies found a significant and positive impact between green attitude and intention.

**Table 4.** Fornell & Larcker.

	EC	EE	EFC	ER	PD	PI
EC	0.808					
EE	0.777	0.785				
EFC	0.622	0.583	0.749			
ER	0.649	0.661	0.651	0.781		
PD	0.767	0.735	0.668	0.780	0.864	
PI	0.758	0.761	0.694	0.817	0.851	0.873

**Table 5.** Evaluation of the structural model.

Construct	R <sup>2</sup>	Adjusted R <sup>2</sup>	p-Value	Q <sup>2</sup>
Purchase Behavior	0.72	0.72	0.00	0.53
Intention	0.79	0.78	0.00	0.59

**Table 6.** Hypothesis testing.

Hypothesis	Relationship	$\beta$ -Value	t-Statistics	p-Value	Results
H1	GA $\rightarrow$ GPI	0.20	2.62	0.009	Supported
H2	PER $\rightarrow$ GPI	0.43	6.47	0.000	Supported
H3	GPE $\rightarrow$ GPI	0.19	2.67	0.008	Supported
H4	SN $\rightarrow$ GPI	0.08	1.57	0.116	Rejected
H5	EFC $\rightarrow$ GPI	0.13	2.17	0.030	Supported
H6	GPI $\rightarrow$ GPD	0.85	25.57	0.000	Supported

A positive and significant impact was also seen between perceived environmental responsibility and green purchase intention (H<sub>2</sub>). Among the independent variables, perceived environmental responsibility has the most significant effect. Zheng et al. (2021) actually found the opposite in his research, as his results show that perceived environmental responsibility is not significantly related to green buying behaviour in China. Findings of this study may indicate that Indonesian millennial consumers have a higher level of environmental responsibility, which is exhibited in their green product purchase intentions, which means, they are more likely to feel as though they have a duty to take care of their environment.

Unlike past studies, this research uncovered that there is a significant and positive impact between a consumer's green product experience with green purchase intention (H<sub>3</sub>). Thus, a consumer who has bought a green product before in the past, is more likely to intend to purchase one again in the future. Previous studies have said the contrary, such as Indriani et al. (2019), who found that environmental experience had no significant direct impact towards the fu-

ture purchase of The Body Shop Indonesia products, which is a beauty brand that focuses on environmental sustainability in regards to formulation, packaging, and research.

A significant and positive impact found between environmental friendliness of companies and green purchase intention ( $H_5$ ). This shows that whether a company is truly sustainable matters for the consumer. This conclusion is supported by previous research, which found that the sustainable background of a company is a significant part of the Indian consumer's green purchase decision (Kumar & Ghodeswar, 2015). The positive outcome between these two variables may be caused by the ease of which consumers can find information about the background of the company through the World Wide Web. Hence, these days it is much easier for consumers to find evidence of a company's past mistakes.

The positive impact between green purchase intention and green purchase behavior ( $H_6$ ) is substantially high and positive, which indicates that consumers who intend to purchase sustainably packaged products are most likely going to choose to actually purchase those products. This is supported by previous research (Kumar & Ghodeswar, 2015).

In contrast,  $H_4$  was rejected, which was: the subjective norm factors of sustainably packaged products have a significant and positive impact on the green purchase intention of consumers was rejected. There are various reasons why this could have been. One probable explanation could be that sustainability is not an exciting topic to bring up with your peers/family, as usually conversations with this subject are serious in nature. Furthermore, in a realistic context, there aren't many casual conversations that can be had regarding sustainably packaged products and ecological awareness, unless geared towards product recommendations.

## 5. Conclusion

As the concern of sustainability continues to rise in Indonesia, increased awareness of packaging waste is likely to spread within the generations. This study is one of the few to identify the factors that influence the green purchase intention and behavior in relation to sustainable packaging in emerging countries such as Indonesia. The findings of this study indicate that Indonesian millennial consumers have a level of environmental consciousness which is exhibited through their attitude in green product purchases. Not only that, but they also exhibit a higher level of responsibility towards their environment, proving once again that millennials are truly going to be very influential in the movement towards sustainable change.

Although according to the data we gathered, social norms do not have a significant effect in millennial purchase behavior, Indonesian millennials are individually utilizing technology to further understand the background of a company, to determine whether or not they are truly sustainable. This means that companies need to commit to being sustainable, as the ease of gathering infor-



mation has made it easy for consumers to be more cautious and aware in their actions to purchase sustainably packaged products. It can also be detrimental to a company's brand. Thus, it can be concluded that the research offers a stepping stone for both managers and academics involved in sustainable strategies and policies, as it is able to facilitate new knowledge on how to increase purchase behavior from Indonesian millennials.

### **5.1. Theoretical Implications**

This study provides the literature on green attitude, perceived environmental responsibility, green product experience, subjective norms, environmental friendliness of companies and green purchase intention. These factors are affecting green purchase decisions for millennials in Indonesia. Based on the findings, this study makes theoretical contributions. The literature which are mentioned are part of the variables which finally lead to a green purchase decision. Therefore, the variables played an important role to figure out the relationship between the variables and green purchase decisions.

This study proposes a research framework that leads to the prediction of the theory of planned behavior. The conclusion of the study shows that millennials are concerned about environmental issues in Indonesia. Hence, companies are required to implement sustainable packaging to stay competitive in the market while also developing a positive image amongst its stakeholders.

### **5.2. Practical Implications**

These findings provide implications for marketing managers and product developers to further understand green consumers and develop strategies related to green product packaging. This creates new business opportunities for businesses. To gain a place in the fierce market, it is necessary to meet the green needs of consumers and change the traditional marketing model. In addition to the public's price, quality, and service, the public's evaluation of the company's quality also enhances environmental protection and public image.

The government can benefit from the results of this study to better understand the factors influencing the green purchase decisions of millennials, so as to effectively make the right strategic deployments in promoting environmental protection efforts for sustainable development in Indonesia.

## **6. Limitations & Future Suggestions**

This research provides new insight on behaviors in relations to sustainable packaging in Indonesia, but there are several limitations to this study. The sample size of this study is only 150, caution is needed when generalizing about the results. This research is not able to generalize the whole population, as the limited data was gathered from quite a small geographical area that only includes the Jakarta Metropolitan Area, as well as West and East Java. Consequently, future studies should make a bigger sample size in order to generalise the findings

to the whole population. It is suggested that future studies collect data from other cities to gain a better understanding of consumers across Indonesia. Not only that, but as seen in the testing model, subjective norms were found to not have an impact on intention, which means that further research needs to be conducted to find more information to support these results.

With the growing ecological challenge that comes from single-use plastic waste, we also suggest that future studies use other variables in relation to sustainable packaging to learn more about the green consumer behaviour of Indonesians. Future research can broaden their population beyond only millennials, and include additional supporting constructs such as price, perceived behavioural control, green brand, etc.

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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