

Factors Affecting Purchase Intention for Environmentally Friendly Packaged Cosmetics Among Young Consumers

Nanda Ravenska^{1*}, Martha Fani Cahyandito², Kurniawan Saefullah³ and Sutisna⁴

^{1,2,3,4} *Faculty of Economics and Business, Doctoral of Science Management, Universitas Padjadjaran, Indonesia*

¹*Polytechnic of STIA LAN Bandung, Indonesia*

**nanda23007@mail.unpad.ac.id*

ABSTRACT

Current environmental and sustainability issues increase consumer attention in consuming products by choosing more environmentally friendly products. One of the products that has a fast turnover, and many types, is cosmetic products. This study explores the factors influencing consumer intentions in purchasing cosmetic products with environmentally friendly packaging. Survey data on students as representatives of Generation Z were processed and showed that perceived value, environmental concern, attitude, willingness to pay, social influence, and brand image influence purchase intention. The results of this study can support companies in producing products with environmentally friendly packaging.

Keywords: purchase intention, sustainable packaging, sustainability

1. INTRODUCTION

In recent decades, global environmental issues have become a major concern for governments, businesses, and consumers worldwide. The problem of waste has become a pressing global issue, affecting ecological health, human well-being, and ecosystem sustainability. An estimated 2.01 billion tons of waste is generated globally each year, and this number is projected to increase with population growth and urbanization (Kaza et al., 2018). Plastic waste is a major concern because only about 9% is recycled, while the rest contaminates oceans, land, and air, causing severe impacts on biodiversity (Brooks et al., 2018). The world's oceans already host more than 8 to 10 million tons of plastic waste each year, threatening marine life and coastal ecosystems (Fava, 2022).

In developing countries, waste management challenges are further complicated by a lack of infrastructure, ineffective policies, and low public awareness (Liang et al., 2021). The consequences of inadequate waste management include soil and water pollution, greenhouse gas emissions, and human health risks (Mahajan & Sudan, 2023; Rahman & Ahmed, 2024). One significant issue that has emerged is cosmetic packaging waste. Conventional packaging made from plastic and other non-biodegradable materials has contributed significantly to environmental pollution, negatively impacting ecosystems and human health (Mugobo et al., 2022).

In Indonesia, the problem of cosmetic packaging waste is increasingly worrying, along with the increasing consumption of beauty products by the public. Indonesia is a major hotspot for plastic waste leakage, with plastic accounting for approximately 10.6% of the country's total annual waste (Mustard, 2022). Plastic packaging waste has worsened environmental problems (Yu et al., 2023). Plastic, glass, and paper packaging are difficult to recycle, and small sachets dominate cosmetic waste, making it more challenging to manage and often end up in landfills or polluting the environment. Seeing this phenomenon, several cosmetic manufacturers have released products with more environmentally friendly packaging. Several cosmetic brands with environmentally friendly packaging products in the Indonesian market are The Body Shop, NPure, Avoskin, Sensatia Botanica, etc.

Generation Z in Indonesia, born between 1997 and 2012 (Dimock, 2019), is a demographic group that grew up amidst the rapid development of technology and information. This generation also shows a high awareness of social, environmental, and sustainability issues, influencing their preferences in choosing products and brands (The Deloitte Global, 2022). By examining the purchase intention of Generation Z, this study can provide a deeper understanding of this generation's values, attitudes, and consumption preferences towards cosmetic products with environmentally friendly packaging so that it can help cosmetic companies or industries design effective and relevant marketing strategies.

Several previous studies have explored how cosmetics with eco-friendly packaging affect the preferences of Generation Z consumers. One showed that environmental concern has no significant effect. However, it has been mediated by eco-friendly purchase intention and eco-friendly purchase behavior on eco-friendly cosmetic products in Indonesia (Marbun et al., 2024). This study reveals consumers' intention to purchase eco-friendly cosmetic products by examining several factors. This study was conducted to answer the question of what factors influence the purchase intention of Generation Z consumers towards cosmetic products with environmentally friendly packaging. To answer this question, this study aims to look at several factors that influence purchase intention,

including the perceived value of sustainable packaging, environmental concern, attitude towards sustainable packaging, willingness to pay, social influence, and brand image. Several studies have shown factors influencing purchase intention towards environmentally friendly products. However, there is still room for analysis by combining factors that influence the purchase intention of Generation Z toward ecologically friendly cosmetic products.

2. LITERATURE REVIEW

Perceived value of sustainable packaging

The perceived value of sustainable packaging refers to consumers' assessment of the benefits and perceived value of using environmentally friendly product packaging (Anjmoon et al., 2024; Vrabič-Brodnjak & Jestratijević, 2024). This value encompasses functional, emotional, and social aspects related to sustainability. Functionally, consumers evaluate sustainable packaging based on its quality and performance, such as durability, recyclability, or waste reduction. Emotionally, consumers may feel satisfaction or a sense of responsibility for supporting an environmentally conscious brand (L. Chen et al., 2023). From a social perspective, using environmentally friendly packaging can enhance consumers' self-image as individuals who care about environmental issues, in line with social norms that support green behavior (Lan et al., 2023).

Environmental concern

Environmental concern refers to the degree to which an individual is concerned about environmental issues and the negative impacts that human activities have on ecosystems (Borgwardt et al., 2019). This concern can cover many issues, such as climate change, pollution, biodiversity loss, and natural resource depletion. The higher a person's level of environmental concern, the more likely they are to engage in environmentally friendly behaviors, such as purchasing sustainable products, supporting environmental policies, and reducing environmentally damaging consumption (Yang et al., 2024). In the context of consumer behavior, environmental concern plays an essential role as a motivating factor in shaping preferences for products or brands that implement sustainable practices, such as using environmentally friendly packaging or reducing carbon emissions (Ghaffar et al., 2023).

Attitude toward sustainable packaging

Attitude toward sustainable packaging refers to consumers' attitudes or perceptions toward environmentally friendly packaging, such as recyclable, biodegradable, or recycled materials (Tanzares et al., 2024; Veronika et al., 2023). This attitude reflects how consumers consider sustainability important in product packaging and how this influences their purchasing decisions. Consumers with positive attitudes toward sustainable packaging tend to value brands committed to environmentally friendly practices more and see sustainable packaging as a tangible contribution to environmental preservation (Mongula et al., 2023).

Willingness to pay

Willingness to pay measures how much consumers are willing to pay for a product or service, reflecting their subjective value on the good (Shah & Yang, 2022). Various factors, including perceived quality, perceived benefits, past experiences, and personal preferences influence willingness to pay. In the context of green products, willingness to pay is often related to the consumer's concern for sustainability and social responsibility issues (Civero et al., 2017; Narayanan, 2022). Consumers who are more concerned about environmental impacts, for example, may be willing to pay more for products that are packaged in an environmentally friendly manner or that have sustainability certification (García-Salirrosas et al., 2024).

Social influence

Social influence is how others directly or indirectly influence a person's attitudes, behaviors, or decisions (Cialdini, 1984). Social influence in marketing and consumer behavior can come from various sources, including family, friends, social groups, celebrities, or social media. This social influence can take the form of social norms, social approval, or peer pressure, which encourages individuals to conform to expectations or trends around them. Social influence is crucial in forming purchasing decisions, as consumers are often influenced by the opinions and recommendations of others, especially in the digital age, where online reviews and testimonials play a significant role (Romadhoni et al., 2023). Studies have shown that social influence also strengthens a person's social identity, where individuals feel more connected to a particular group by adopting products or services recommended by that group (Wickes et al., 2022).

Brand image

Brand image is a consumer's perception of a brand that is formed through their interaction with the brand's products, services, and communications (Kotler & Keller, 2016). This perception includes associations regarding the quality,

uniqueness, and reliability of the product, as well as the emotional experience consumers feel. Brand image is essential in differentiating a brand from its competitors, influencing purchasing decisions, and creating customer loyalty (Dam & Dam, 2021). In the context of the brand image of products with environmentally friendly packaging, the brand image focuses more on the values of sustainability and the company's environmental responsibility. Consumers tend to associate the product with ecological awareness, good business ethics, and a commitment to reducing environmental negative impacts (Metekohy et al., 2024)

Prior relevant research models

Duarte et al., (2024) tested the relationship between several factors influencing consumer purchase intention towards sustainable packaging. The factors tested were the perceived value of sustainable packaging, willingness to pay, environmental concern, and attitude toward sustainable packaging. The results showed that the variable perceived value of sustainable packaging has an influence and is the weakest predictor compared to other variables. This study emphasizes the importance of understanding consumer motivation and the factors influencing their decision to choose sustainable packaging. It also provides insight for stakeholders in designing more effective marketing strategies for sustainable products.

Another study by Polanco et al. (2021) examined the relationship between consumer behavior that cares about the environment and sustainable packaging and considered brand image and its impact on purchase intention for ecological wine. The results of his study showed that brand image, together with brand dimensions, are the most powerful and relevant variables in the purchase decision for ecological wine. Brands help consumers feel confident that they are buying high-quality products.

Lan et al. (2023) identified five main factors influencing purchase intention for environmentally friendly packaging products among Ho Chi Minh City urban residents. One of the factors is social influence. The results of the study showed that social influence has a significant impact on purchase intention for products with environmentally friendly packaging. This influence comes from various sources of social information, including family, friends, and the media. This study indicates that consumers exposed to positive environmental norms and values from their social groups are more likely to purchase environmentally friendly products. Research by Nicolae (2024) also supports the idea that the greater the social influence felt by individuals from their social groups, the more likely they are to engage in sustainable purchasing behavior.

Therefore, this study proposes to add social influence and brand image from the previous research model Duarte et al., (2024) to determine the purchasing interest of young generation consumers towards cosmetic products with environmentally friendly packaging. According to the theory of planned behavior (TPB) proposed by Icek Ajzen, three main factors influence a person's intention to take action, including attitude, subjective norms and perceived behavioral control (Ajzen, 1991). This study positions the perceived value of sustainable packaging, attitude towards sustainable packaging, environmental concern, willingness to pay, social influence, and brand image as related to attitude, subjective norms, and perceived behavioral control.

Figure 1 illustrates the research framework. The study verifies the influence of the perceived value of sustainable packaging (H1), environmental concern (H2), attitude towards sustainable packaging (H3), willingness to pay (H4), social influence (H5), and brand image (H5) on the intention to purchase cosmetic products with environmentally friendly packaging.

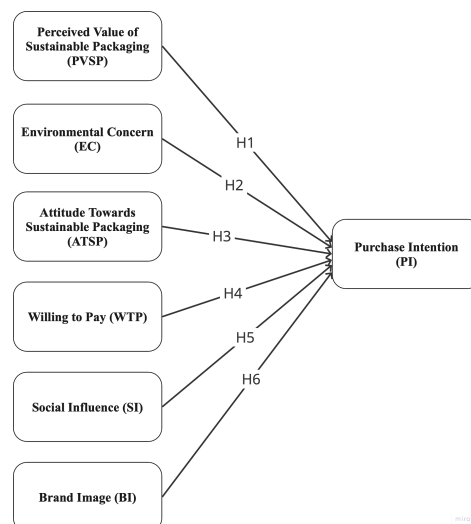


Figure 1. Research Framework

3. METHOD

Sample, data collection, and questionnaire development

The quantitative approach was chosen in this study to explain the relationship between variables. The instrument used was a questionnaire, and a hypothesis was also developed that predicted the results of the relationship between the variables studied. This study examines Generation Z, who were born in 1997 - 2012 (Dimock, 2019) and who are currently in the general range who are studying. The sample in this study focuses on students because it is one of the right age groups for this study that discusses the intention of using cosmetics with environmentally friendly packaging. Student samples were also selected to reduce the potential for random errors compared to public samples (Andrade, 2021). The survey was conducted on consumer groups of students at a college in Bandung City, West Java, Indonesia. The students are included in the age range of Generation Z (12-27 years). This study used non-probability sampling to target groups of students who use cosmetics with environmentally friendly packaging. Purposive sampling techniques were applied to select respondents based on specific criteria relevant to the study's objectives.

Data were collected using an online questionnaire prepared following the objectives of this study. Researchers distribute links to fill out the survey in areas where students gather. According to Hair et al., the minimum number of samples needed is 130 because there are 26 parameters from six variables (Hair et al., 2006). Respondents who filled out the survey were obtained, and as many as 230 were tested valid and reliable for further analysis. The questionnaire was divided into three sections: where the first section asked for respondents' agreement to take the survey, the second section asked for demographic data from respondents, and the third section asked for data on variables including perceived value of sustainable packaging, environmental concern, attitude towards sustainable packaging, willingness to pay, social influence, brand image, and purchase intention (see Table 1).

Table 1. Measurement scales

Perceived value of sustainable packaging (PVSP) 1. The intended performance of the product with sustainable packaging meets my expectations. 2. The environmental function of products with sustainable packaging creates value for me. 3. I buy products with sustainable packaging because they have more environmental benefits than products with conventional packaging. 4. I buy products with sustainable packaging because they show more environmental concern than products with conventional packaging. 5. I buy products with sustainable packaging because they are sustainable	(Duarte et al., 2024)
Environmental Concern (EC) 1. I am very concerned about the situation of the environment. 2. I am willingness to reduce my consumption to help protect the environment. 3. Major social changes are needed to protect the environment. 4. Major policy changes are needed to protect the environment.	(Petkowicz et al., 2024)
Attitude Towards Sustainable Packaging (ATSP) 1. I believe that buying products with sustainable packaging is favourable 2. I believe that buying products with sustainable packaging is a good idea 3. I believe that buying products with sustainable packaging is safe	(Petkowicz et al., 2024)
Willingness to Pay (WTP) 1. I agree to pay more for products with sustainable packaging. 2. I am proud to have products with sustainable packaging in my home, even though they are more expensive than products with conventional packaging. 3. I would be willingness to pay more to buy products with packaging that is less harmful to the environment.	(Duarte et al., 2024)
Social Influence (SI) 1. People important to me encourage me to use products with environmentally friendly packaging. 2. Information in the media encourages me to try products with environmentally friendly packaging. 3. I learned that consuming environmentally friendly packaging products contributes to a better environment.	(Lan et al., 2023)

<p>Brand Image (BI)</p> <ol style="list-style-type: none"> 1. The brand is considered as the benchmark of environmental commitment. 2. The brand's environmental reputation is outstanding. 3. The brand's environmental performance is successful. 4. The branding is based on its emphasis on environmental protection. 5. The brand's environmental commitment is trustworthy. 	(Y. S. Chen et al., 2017)
<p>Purchase Intention (PI)</p> <ol style="list-style-type: none"> 1. For sustainability, I'm going to consider switching to brands that sell their products with sustainable packaging. 2. In the future, I hope to buy products with sustainable packaging for their positive contribution to the environment. 3. I will consider buying products with sustainable packaging because they are less polluting. 	(Duarte et al., 2024)

Likert scale: 5 (1 - strongly disagree; 5 - strongly agree)

Data analysis

The statistical analysis used in this study is descriptive statistics, analysis of measurement quality using validity and reliability analysis, correlation analysis, multiple regression analysis, and hypothesis testing. Descriptive statistical analysis includes simple frequency and mean values based on demographic and behavioral data. Furthermore, validity and reliability tests are carried out using the Cronbach alpha coefficient. Correlation analysis identifies relationships between variables, and multiple regression tests hypotheses and evaluates the influence of independent variables on dependent variables.

4. RESULTS AND DISCUSSION

Results

Profiles of the respondents

The sample of this study consisted of 25.2% male and 74.8% female. In terms of income that can come from family, work, and others, it is dominated by student respondents who earn less than Rp 2,000,000 as much as 74.3%, those who earn from the range of Rp 2,000,000 - Rp 4,999,999 as much as 20.4% and more than Rp 5,000,000 as much as 5.2%. The results of respondents related to the frequency of using cosmetics: the average value of respondents is 20% using cosmetics 1-3 days a week, 21.3% of respondents using cosmetics 4-6 days a week, and 58.7% of respondents using cosmetics daily.

Table 2. Descriptive statistics

Variable	N	Mean	Std deviation
Perceived Value of Sustainable Packaging (PVSP)	230	3.975	0.7694
Environmental Concern (EC)	230	4.386	0.7104
Attitude Towards Sustainable Packaging (ATSP)	230	4.310	0.7154
Willingness to Pay (WTP)	230	3.765	0.8194
Social Influence (SI)	230	4.064	0.7082
Brand Image (BI)	230	4.062	0.7072
Purchase Intention (PI)	230	4.239	0.7207

Hypothesis testing

Correlation analysis

In this research, the dependent variable is Purchase Intention (PI). There are six independent variables, namely perceived value of sustainable packaging (PVSP), environmental concern (EC), attitude towards sustainable packaging (ATSP), willingness to pay (WTP), social influence (SI), brand image (BI), and purchase intention (PI). The data from this study were processed using SPSS. Measurement quality testing was conducted by conducting reliability, validity, and standard method bias tests, as shown in Table 3. The test showed adequate reliability ($\alpha > 0.7$), the calculated r-value is more significant than 0.3 (Pearson correlation), and convergent validity (AVE > 0.5), as well as the absence of multicollinearity between independent variables (VIF < 10).

Table 3. Reliability, convergent validity, and common bias testing result

	Cronbach's Alpha	Pearson Correlation	Average Variance Extracted (AVE)	Variance Inflation Factor (VIF)
PVSP	0.927	0.884	0.684	3.181
EC	0.916	0.894	0.763	3.673
ATSP	0.919	0.896	0.753	4.148
WTP	0.938	0.696	0.814	1.621
SI	0.923	0.856	0.589	3.026
BI	0.917	0.908	0.687	3.866
PI	0.917	0.922	0.738	

The Spearman correlation is the non-parametric technique used to calculate the strength and direction of the relationship between two variables. Determining the level of strength of the relationship between variables can be guided by the correlation coefficient value, which is the result of SPSS output, with the following provisions: A correlation coefficient value of 0.00 - 0.25 means the relationship is very weak, a correlation coefficient value of 0.26 - 0.50 means the relationship is sufficient, and A correlation coefficient value of 0.51 - 0.75 means the relationship is strong. Table 4 shows that each variable has a positive correlation with the others.

Table 4. Spearman correlation

	PVSP	EC	ATSP	WTP	SI	BI	PI
PVSP		0.640**	0.664**	0.454**	0.626**	0.660**	0.628**
EC	0.640**		0.735**	0.558**	0.473**	0.618**	0.678**
ATSP	0.664**	0.735**		0.559**	0.531**	0.696**	0.758**
WTP	0.454**	0.558**	0.559**		0.488**	0.497**	0.547**
SI	0.626**	0.473**	0.531**	0.488**		0.617**	0.662**
BI	0.660**	0.618**	0.696**	0.497**	0.617**		0.795**
PI	0.628**	0.678**	0.758**	0.547**	0.662**	0.795**	

** Correlation is significant at the 0.01 level (2-tailed).

Multiple linear regression model analysis

Multiple regression is conducted to measure the relationship between dependent and independent variables and to test hypotheses related to the relationship. In Table 5, R square shows good results. Variations in the dependent variable can be explained by the independent variables included in the regression model. The resulting model is as follows:

1. PVSP predicting PI ($R^2 = 0.562$)
2. PVSP, EC predicting PI ($R^2 = 0.722$)
3. PVSP, EC, ATSP predicting PI ($R^2 = 0.774$)
4. PVSP, EC, ATSP, WTP predicting PI ($R^2 = 0.777$)
5. PVSP, EC, ATSP, WTP, SI predicting PI ($R^2 = 0.811$)
6. PVSP, EC, ATSP, WTP, SI, BI predicting PI ($R^2 = 0.840$)

The sixth model has the highest R^2 value, which shows that PVSP, EC, ATSP, WTP, SI, and BI simultaneously predict PI, with a value of 84% of the variance in the PI variable. The Durbin-Watson value is used to evaluate autocorrelation. Autocorrelation occurs if there are residual values that are correlated with each other. The calculation results in Table 5 show a Durbin-Watson value of 1.990, which indicates no autocorrelation.

Table 5. Regression model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.750 ^a	0.562	0.560	0.4782	
2	0.850 ^b	0.722	0.720	0.3816	
3	0.880 ^c	0.774	0.771	0.3446	
4	0.881 ^d	0.777	0.773	0.3434	
5	0.901 ^e	0.811	0.807	0.3168	
6	0.917 ^f	0.840	0.836	0.2922	1.990

a. Predictors: (Constant), PVSP

b. Predictors: (Constant), PVSP, EC

- c. Predictors: (Constant), PVSP, EC, ATSP
- d. Predictors: (Constant), PVSP, EC, ATSP, WTP
- e. Predictors: (Constant), PVSP, EC, ATSP, WTP, SI
- f. Predictors: (Constant), PVSP, EC, ATSP, WTP, SI, BI

ANOVA tests whether there is a significant difference between the means of two or more groups. The test results show a simultaneous relationship (Table 6).

Table 6. ANOVA test

Model	Sum of Squares	Degree of freedom	Mean Square	F	Sig.
1	66.831	1	66.831	292.311	0.000 ^b
	52.128	228	0.229		
	118.959	229			
2	85.907	2	42.954	295.010	0.000 ^c
	33.051	227	0.146		
	118.959	229			
3	92.117	3	30.706	258.534	0.000 ^d
	26.842	226	0.119		
	26.533	225			
4	92.426	4	23.106	195.944	0.000 ^e
	26.533	225	0.118		
	118.959	229			
5	96.473	5	19.295	192.212	0.000 ^f
	118.959	229			
	22.486	224	0.100		
6	99.925	6	16.654	195.122	0.000 ^g
	19.034	223	0.085		
	118.959	229			

- a. Dependent Variable: PI
- b. Predictors: (Constant), PVSP
- c. Predictors: (Constant), PVSP, EC
- d. Predictors: (Constant), PVSP, EC, ATSP
- e. Predictors: (Constant), PVSP, EC, ATSP, WTP
- f. Predictors: (Constant), PVSP, EC, ATSP, WTP, SI
- g. Predictors: (Constant), PVSP, EC, ATSP, WTP, SI, BI

Linear regression (Partial)

The results of linear regression calculations are used to see the magnitude of the influence (R Square) of each independent variable (PVSP, EC, ATSP, WTP, SI, and BI) on the dependent variable, namely PI. The R-square value of PVSP on PI is obtained at 0.562, EC on PI is obtained at 0.684, ATSP on PI is obtained at 0.701, WTP on PI is obtained at 0.332, SI on PI is obtained at 0.623, and BI on PI is obtained at 0.733.

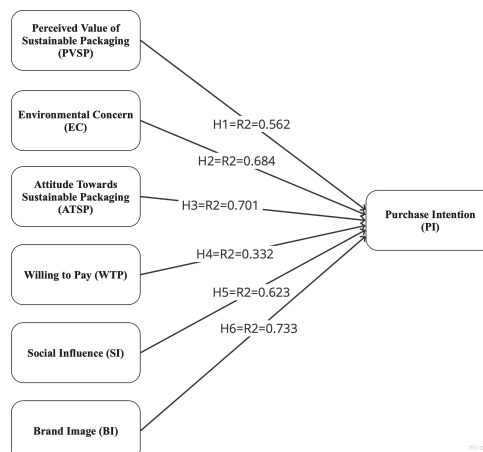


Figure 2. Model results

Conclude from the hypothesis that the research results show the impact of six factors: (1) the perceived value of cosmetic products with environmentally friendly packaging, (2) environmental concern, (3) willingness to pay, (4) the consumer's attitude towards the cosmetic products with eco-friendly packaging, (5) social influence, (6) brand image to intention to buy cosmetic products with environmentally friendly packaging of college student as young generation group.

Discussion

This study's results align with and complement the models of previous studies produced by Polanco et al., (2021), and Lan et al., (2023), and Duarte et al., (2024). Based on multicollinearity measurements, willingness to pay has the lowest value, and these results align with prior studies' results. Spearman correlation analysis and hypothesis testing show a strong relationship between all variables in this research model. The results show a positive relationship between the perceived value of sustainable packaging and the purchase intention of cosmetic products with environmentally friendly packaging. These results are in line with the research of Lan et al., (2023) and Wu et al., (2024). The higher the green perception value consumers feel, the more likely they will have a high purchase intention for the product (Wu et al., 2024). Likewise, this study shows that environmental concern influences purchase intention and attitude positively influences purchase intention, and these results support previous research conducted by Lan et al., (2023).

Duarte et al., (2024) revealed that environmental concerns and perceptions of product quality mainly support consumer willingness to pay for sustainable products. This study also shows that consumer willingness to pay affects their purchase intention for cosmetic products with environmentally friendly packaging. This study also confirms the results of Nicolae (2024) and Lan et al., (2023) that social influence has a positive and significant influence on sustainable purchasing behavior. The greater the social influence individuals feel from their social group, the more likely they are to engage in sustainable purchasing behavior, such as buying organic products (Nicolae, 2024) or products with environmentally friendly packaging, as studied in this study. Chen et al. (2017) and Polanco et al., (2021) explained that brand image shapes consumer perceptions of environmentally friendly brands. This study also shows that brand image influences consumers' intention to purchase cosmetic products with environmentally friendly packaging and brand image shows the most significant influence on purchase intention.

This study contributes to previous studies by conducting several tests on factors that impact consumer purchasing interest. However, it still needs to be deepened by adding additional evidence to strengthen the analysis of consumer interest in products with environmentally friendly packaging.

5. CONCLUSION

This study contributes to the existing literature by increasing our understanding of the factors influencing consumer purchase intention towards products with environmentally friendly packaging, especially in this study, consumers from the younger generation (Gen Z). It can be concluded that perceived value, environmental concern, attitude, willingness to pay, social influence, and brand image have a significant influence on the purchase intention of cosmetic products with environmentally friendly packaging. Therefore, cosmetic companies need to increase campaigns that focus on the value of sustainable packaging and continue to make various efforts to build brand image. Companies can also strengthen by attracting several influencers whose impact is felt to be positive and good to increase consumer willingness to switch to types of cosmetic product offerings with environmentally friendly packaging. In addition, the results of this study have respondents with a dominant female gender. This shows a higher interest and positive attitude among women towards purchasing cosmetics with environmentally friendly packaging. Therefore, companies must consider targeting women to increase purchase intention towards cosmetic products with environmentally friendly packaging. Some limitations in this study are the sample size, which is still relatively small, and the scope that can still be expanded in the sampling area. So that further research can be conducted with wider and more samples. In addition, it can also use other factors that influence consumer purchase intention to buy cosmetic products with environmentally friendly packaging.

6. REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Andrade, C. (2021). The Inconvenient Truth About Convenience and Purposive Samples. *Indian Journal of Psychological Medicine*, 43(1), 86–88. <https://doi.org/10.1177/0253717620977000>

- Anjimon, S., Sobti, R., K A, J. K., Kumar, A., Parashar, S. C., & Hussien, R. A. (2024). Revolutionizing Packaging and Consumer Products: Exploring the Potential of Biodegradable Materials. *E3S Web of Conferences*, 472, 02006. <https://doi.org/10.1051/e3sconf/202447202006>
- Borgwardt, F., Robinson, L., Trauner, D., Teixeira, H., Nogueira, A. J. A., Lillebø, A. I., Piet, G., Kuemmerlen, M., O'Higgins, T., McDonald, H., Arevalo-Torres, J., Barbosa, A. L., Iglesias-Campos, A., Hein, T., & Culhane, F. (2019). Exploring variability in environmental impact risk from human activities across aquatic ecosystems. *Science of The Total Environment*, 652, 1396–1408. <https://doi.org/10.1016/j.scitotenv.2018.10.339>
- Brooks, A. L., Wang, S., & Jambeck, J. R. (2018). The Chinese import ban and its impact on global plastic waste trade. *Science Advances*, 4(6), 1–8. <https://doi.org/10.1126/sciadv.aat0131>
- Chen, L., Matloob, S., Sunlei, Y., Qalati, S. A., Raza, A., & Limón, M. L. S. (2023). A Moderated–Mediated Model for Eco-Conscious Consumer Behavior. *Sustainability*, 15(2), 897. <https://doi.org/10.3390/su15020897>
- Chen, Y. S., Hung, S. T., Wang, T. Y., Huang, A. F., & Liao, Y. W. (2017). The influence of excessive product packaging on green brand attachment: The mediation roles of green brand attitude and green brand image. *Sustainability (Switzerland)*, 9(4). <https://doi.org/10.3390/su9040654>
- Cialdini, R. (1984). *Influence. The Psychology of Persuasion*. William Morrow e Company.
- Civero, G., Rusciano, V., & Scarpato, D. (2017). Consumer behaviour and corporate social responsibility: an empirical study of Expo 2015. *British Food Journal*, 119(8), 1826–1838. <https://doi.org/10.1108/BFJ-12-2016-0601>
- Dam, S. M., & Dam, T. C. (2021). Relationships between Service Quality, Brand Image, Customer Satisfaction, and Customer Loyalty. *Journal of Asian Finance, Economics and Business*, 8(3), 585–593. <https://doi.org/10.13106/jafeb.2021.vol8.no3.0585>
- Dimock, M. (2019). *Defining Generations: Where Millennials End and Generation Z Begins*. Pew Research Center. <https://www.pewresearch.org/short-reads/2019/01/17/where-millennials-end-and-generation-z-begin-s/>
- Duarte, P., Silva, S. C., Roza, A. S., & Dias, J. C. (2024). Enhancing consumer purchase intentions for sustainable packaging products: An in-depth analysis of key determinants and strategic insights. *Sustainable Futures*, 7(November 2023), 100193. <https://doi.org/10.1016/j.sft.2024.100193>
- Fava, M. (2022). *Ocean plastic pollution an overview: data and statistics*. Unesco (Intergovernmental Oceanographic Commission). <https://oceanliteracy.unesco.org/plastic-pollution-ocean/>
- García-Salirrosas, E. E., Escobar-Farfán, M., Gómez-Bayona, L., Moreno-López, G., Valencia-Arias, A., & Gallardo-Canales, R. (2024). Influence of environmental awareness on the willingness to pay for green products: an analysis under the application of the theory of planned behavior in the Peruvian market. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1282383>
- Ghaffar, A., Zaheer Zaidi, S. S., & Islam, T. (2023). An investigation of sustainable consumption behavior: the influence of environmental concern and trust in sustainable producers on consumer xenocentrism. *Management of Environmental Quality: An International Journal*, 34(3), 771–793. <https://doi.org/10.1108/MEQ-05-2022-0153>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2006). *Multivariate Data Analysis 7th Edition* (7th ed.). Pearson.
- Kaza, S., Yao, L. C., Bhada-Tata, P., & Van Woerden, F. (2018). *What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050*. Washington, DC: World Bank. <https://doi.org/10.1596/978-1-4648-1329-0>
- Kotler, P., & Keller, K. L. (2016). *Marketing Management (Ed. 15th)*. Pearson Education Limited.
- Lan, B. T. H., Phuong, T. T. L., Dat, T. T., & Truong, D. D. (2023). Factors Affecting the Purchase Intention of Products with Environmentally Friendly Packaging of Urban Residents in Ho Chi Minh City, Vietnam. *Sustainability (Switzerland)*, 15(9). <https://doi.org/10.3390/su15097726>
- Liang, Y., Tan, Q., Song, Q., & Li, J. (2021). An analysis of the plastic waste trade and management in Asia. *Waste Management*, 119, 242–253. <https://doi.org/10.1016/j.wasman.2020.09.049>
- Mahajan, R., & Sudan, F. K. (2023). Assessment of Household Practices of Solid Waste Management in Jammu City, India. *Regional Economic Development Research*, 4(1), 1–30. <https://doi.org/10.37256/redr.4120231797>

- Marbun, N., Rahmiati, F., Mangkurat, R. S. B., & Ismail, Y. (2024). *Factors influencing customer purchase behavior through purchase intention on green cosmetic products*. 2(1), 1–10.
- Metekohy, E. Y., F., D., & A. (2024). Environmental Attitudes, Brand Image, and Their Influence on Purchasing Decisions for Environmentally Friendly Packaging Products with Gender Variable. *KnE Social Sciences*. <https://doi.org/10.18502/kss.v9i25.17003>
- Mongula, A., Masnita, Y., & Kurniawati, K. (2023). Environmental Concern: Does It Drive Green Purchase Intention of sustainable Packaging? *Jurnal Ekonomi Bisnis Dan Kewirausahaan*, 12(3), 290. <https://doi.org/10.26418/jebik.v12i3.67498>
- Mugobo, V. V., Ntuli, H., & Iwu, C. G. (2022). Consumer Perceptions of the Use of Nondegradable Plastic Packaging and Environmental Pollution: A Review of Theories and Empirical Literature. *Journal of Risk and Financial Management*, 15(6). <https://doi.org/10.3390/jrfm15060244>
- Mustard, A. (2022). *Extended Producer Responsibility Guideline on Plastic Products and Packaging for Industries in Indonesia*. <https://www.southpole.com/>
- Narayanan, S. (2022). Does Generation Z value and reward corporate social responsibility practices? *Journal of Marketing Management*, 38(9–10), 903–937. <https://doi.org/10.1080/0267257X.2022.2070654>
- Nicolae, C. A. (2024). Understanding sustainable purchasing behavior in Romania: Drivers, barriers, and environmental participation. *Management and Marketing*, 19(2), 362–381. <https://doi.org/10.2478/mmcks-2024-0016>
- Petkowicz, A. C., Pelegrini, T., Bodah, B. W., Rotini, C. D., Moro, L. D., Neckel, A., Spanhol, C. P., Araújo, E. G., Pauli, J., & Mores, G. de V. (2024). Purchasing Intention of Products with Sustainable Packaging. *Sustainability (Switzerland)*, 16(7), 1–18. <https://doi.org/10.3390/su16072914>
- Polanco, A. F., Sandoval, S. M., & Suárez, C. R. (2021). The Relation Between Consumer Green Behavior, Sustainable Packaging, and Brand Image in the Purchase of Ecological Wines. *Proceedings of the European Conference on Innovation and Entrepreneurship 2021*, 338–346. <https://doi.org/10.34190/EIE.21.136>
- Rahman, M. S., & Ahmed, S. (2024). *Health consequences of inadequate solid waste management in Bangladesh : pollution , disease , and contamination risks*.
- Romadhoni, B., Akhmad, A., Naldah Naldah, & Niluh Putu Evvy Rossanty. (2023). Purchasing Decisions Effect of Social Media Marketing, Electronic Word of Mouth (eWOM), Purchase Intention. *Journal of Accounting and Finance Management*, 4(1), 74–86. <https://doi.org/10.38035/jafm.v4i1.194>
- Shah, P., & Yang, J. Z. (2022). Consumer Willingness to Pay for Sustainable Products. *Environmental Communication*, 16(8), 1077–1093. <https://doi.org/10.1080/17524032.2022.2152847>
- Tanzares, J., Rahmiati, F., Jokhu, J. R., & Mangkurat, R. S. B. (2024). The impact of willingness to pay, environmental awareness, consumer behavior, consumer attitudes toward purchase decisions on sustainable packaging in Indonesia. *Journal of Character and Environment*, 2(1). <https://doi.org/10.61511/jocae.v2i1.2024.878>
- The Deloitte Global. (2022). Striving For Balance, Advocating For Change. *The Deloitte Global 2022 Gen-Z & Millennial Survey*, 1–40.
- Veronika, L., Branska, L., & Patak, M. (2023). *Differences in Consumer Attitudes Towards Selected Aspects of Sustainable Packaging*. 78–84. <https://doi.org/10.37904/clc.2023.4848>
- Vrabič-Brodnjak, U., & Jestratijević, I. (2024). The future of baby cosmetics packaging and sustainable development: A look at sustainable materials and packaging innovations – A systematic review. *Sustainable Development*, 32(3), 2208–2222. <https://doi.org/10.1002/sd.2775>
- Wickes, R., Hipp, J., & Laughland-Booÿ, J. (2022). Ethnic Diversity, Social Identity, and Social Withdrawal: Investigating Putnam’s Constrict Thesis. *The Sociological Quarterly*, 63(3), 516–540. <https://doi.org/10.1080/00380253.2021.1899087>
- Wu, S., Hu, Z., Li, Y., & Yuan, Y. (2024). How brand familiarity affects green product purchase intention: The moderating role of streamers’ environmental knowledge. *Technology in Society*, 77(April), 102572. <https://doi.org/10.1016/j.techsoc.2024.102572>
- Yang, H., Meekaewkunchorn, N., & Muangmee, C. (2024). *Exploring the Relationship between Environmental Concerns, Green Marketing, and Brand Image with Green Purchasing Intention* (pp. 346–353). https://doi.org/10.2991/978-2-38476-253-8_42
- Yu, C., Jin, D., Hu, X., He, W., & Li, G. (2023). An Overview of Management Status and Recycling

Strategies for Plastic Packaging Waste in China. *Recycling*, 8(6), 1–17.
<https://doi.org/10.3390/recycling8060090>