

THE ROLE OF ENVIRONMENTAL CONCERN IN SHAPING THE PURCHASE INTENTION OF ECO-FRIENDLY PACKAGING

Ni Ade Lianita^{*)1}, Harmini^{**)2}, Ratna Winandi Asmarantaka^{**)3}

^{*)}Master Program of Agribusiness Science, Department of Agribusiness, Faculty of Economics and Management, IPB University
Jl. Kamper, Campus of IPB Dramaga Bogor 16680, Indonesia

^{**)2}Department of Agribusiness, Faculty of Economics and Management, IPB University
Jl. Kamper, Campus of IPB Dramaga Bogor 16680, Indonesia

Article history:

Received
22 May 2024

Revised
26 June 2024

Accepted
16 July 2024

Available online
31 July 2024

This is an open access
article under the CC BY
license



How to Cite:

Lianita NA, Harmini H, Asmarantaka RW. 2024. The role of environmental concern in shaping the purchase intention of eco-friendly packaging. *Jurnal Manajemen & Agribisnis* 21(2): 249–260. <https://doi.org/10.17358/jma.21.2.249>

Abstract

Background: Highlight the importance of emphasizing the necessity of utilizing environmentally benign packaging materials, particularly given the mounting environmental concerns primarily attributed to the alarming rate of plastic waste production.

Purpose: The study aims to analyze the factors that influence Generation Z consumers' intention to purchase products with eco-friendly packaging and identify strategies that can be employed to enhance this intention.

Design/methodology/approach: A path analysis was performed using Partial Least Square with Structural Equation Modeling (PLS-SEM).

Findings/Result: The research findings indicate that environmental concerns, support for the policy, perceived behavioral control, attitude, and subjective norm positively and significantly influence the increased intention to purchase Generation Z products with eco-friendly packaging. Environmental concern and perceived behavioral control are pivotal in fostering increased purchase intention for these products. Environmental concerns strongly influence intentions to purchase eco-friendly packaged products, leading Generation Z to demand more. This phenomenon reflects consumer trends; stakeholders need involvement to encourage sustainable actions and achieve environmental sustainability, especially among young people.

Conclusion: It could be concluded that environmental concern plays a pivotal role in Generation Z's intention to purchase products with eco-friendly packaging. This concern influences various aspects of the Theory of Planned Behavior, guiding consumers toward more sustainable choices. The findings indicate that a higher level of environmental concern is associated with a greater intention to select eco-friendly packaging. Therefore, stakeholders must enhance environmental awareness among Generation Z, as they will play a pivotal role in the future of environmental sustainability development. Integrating eco-friendly practices into campus environments and business strategies will help meet this demand and support the shift toward more sustainable consumer behavior.

Originality/value (State of the art): This study uses an extended variant of the TPB with a research focus different from previous studies. Previous empirical studies such as Paul et al. (2016), Chaudhary & Bisai (2018), and Asih et al. (2020) focused on green products. In contrast, this study focuses on products with eco-friendly packaging. Paul et al. (2016) integrated the TPB model with environmental concern to examine its influence on purchase intention of green products in India, while Chaudhary & Bisai (2018) combined the TPB model with environmental concern to examine its influence on purchase intention and willingness to pay premium, and tested the moderation effect between purchase intention and green purchasing behavior in India. Asih et al. (2020) integrated the TPB model with environmental concern and environmental knowledge to examine interest in using green products. However, this study integrates environmental concern and policy to support the TPB model, examine the factors influencing Generation Z's purchase intention toward products with eco-friendly packaging, and identify strategies to increase Generation Z's intention to purchase.

Keywords: environmental concern, green products, purchase intention, PLS-SEM, theory of planned behavior

¹ Corresponding author:
Email: adelianita53779@gmail.com

INTRODUCTION

The amount of plastic waste in Indonesia is increasing yearly, and approximately 40% of the world's plastic is used for packaging (Evode et al. 2021). Although it offers advantages in terms of packaging efficiency, it has a significant ecological impact. It is a fact that the sizeable volume of plastic waste in Indonesia is only a fraction of the total waste that could be effectively managed (SIPSN, 2024). In response to these challenges, countries worldwide, including Indonesia, have taken significant steps towards combating environmental degradation, aiming to sustain the environment for future generations. One such measure is exemplified by the Indonesian government through the Ministry of Environment and Forestry, issuing Ministerial Regulation No. 75 of 2019. The objective of this regulation is to manage and reduce the usage of plastic waste. It outlines measures for producers to minimize waste accumulation and promote recycling practices through retrieval and reuse programs.

Furthermore, it encourages the adoption of more eco-friendly packaging alternatives to reduce non-recyclable waste (Danareksa, 2023). A company's commitment to environmental preservation can be demonstrated by minimizing plastic usage in packaging and selecting eco-friendly products (Shafira et al. 2022). Manufacturers must strive to create environmentally friendly products, including packaging, considering their significant environmental impact.

Eco-friendly packaging is designed using specific materials and techniques to reduce the environmental impact of the packaging process. This entails the utilization of biodegradable materials, disseminating educational messages on the appropriate disposal of said materials, and implementing the 4R principles (reuse, reduce, recycle, and replace) (Channa et al. 2022). Nevertheless, despite these efforts, many consumers remain uninterested in these products because of their consumption values, rejections of technology, and reluctance to pay the associated premium prices (Jung et al. 2020; Coderoni & Perito, 2021). However, there is still a limited interest in using eco-friendly products. In light of these considerations, it is evident that providing attention and support for eco-friendly packaging is paramount from various perspectives. This becomes even more pressing in light of the alarming environmental conditions resulting from inadequate handling of growing plastic waste production. One approach to supporting business growth and

environmental sustainability is to understand consumer purchasing behavior, particularly their every day buying intentions, through marketing approaches. If the general public were to integrate the concept of environmentally conscious purchasing into their everyday purchasing habits, then the implementation of eco-friendly packaging practices by manufacturers would be able to contribute to environmental preservation effectively.

The concept of green purchasing involves selecting products with minimal environmental impact. However, people must have a high level of concern for the environment to cultivate this awareness. Suhartanto et al. (2023) noted that increasing awareness and concern among the younger generation could significantly reduce environmental issues, particularly plastic pollution. Generation Z has been observed to be remarkably concerned about environmental issues, prioritizing eco-friendly products despite their higher cost (Casalegno et al. 2022). In Indonesia, this generation constitutes the largest proportion, accounting for approximately 26.46% of the total population (BPS, 2021). According to Priporas et al. (2017), one of the future challenges that marketing and retail may face is Generation Z, which is linked to this generation's different consumer behaviors and interest in innovation. There are three primary criteria for eco-friendly packaging: using recycled materials, excluding harmful substances, and designing to reduce waste (Al-Kindi & Al-Baldawi, 2021). Therefore, it is essential to consider innovative packaging products that appeal to the generation that values innovation. Understanding Generation Z's eco-friendly packaging behavior is essential for the sustainability of both businesses and the environment. Furthermore, consumer behavior plays a significant role in shaping manufacturers' business practices.

Consumer behavior is an essential factor to consider when designing marketing strategies. The success or failure of a company's marketing strategies depends on its understanding of consumer behavior (Peter & Olson, 2008). By understanding consumer behavior, marketers could gain insight into consumer orientations, behavioral facts, and theories that guide consumer thought processes. These theories can assist marketers in designing effective marketing strategies. Previous research suggests that consumer behavior towards environmentally friendly products is a complex issue influenced by various factors that affect their decision-making processes. The Theory of Planned Behavior has been commonly used in previous research as a

theoretical approach to understanding consumer behavior. In pursuance with Ajzen (1991), the Theory of Planned Behavior (TPB) suggests that attitudes, subjective norms, and perceived behavioral control shape intentions and behaviors. Based on these factors, TPB predicts the motive for purchasing eco-packaged products. According to Chaudhary & Bisai (2018) research, three constructs in the TPB, the intention was identified as a precursor behavior in investigating the correlation between intention and actual purchasing behavior in TPB.

Asih et al. (2020) demonstrated that consumer attitudes positively influence purchasing eco-friendly products. Subjective norms also exert a significant influence, as indicated by Sun and Wang (2019) and Varah et al. (2021). Furthermore, external factors such as time, price, knowledge, and skills affect perceived behavior control in purchasing eco-friendly products. In the Theory of Planned Behavior (TPB), these three constructs explain the relationship between intention and actual purchasing behavior, with intention as the preceding behavior. However, Tan et al. (2019) have demonstrated that many intricate factors influence attitudes toward purchasing eco-friendly products. In response, several studies have endeavored to expand the TPB constructs. In consideration of the results of the literature study, two additional variables have been identified for further study, namely environmental concern and policy support. Environmental concern is a crucial element in predicting consumer behavior towards eco-friendly products, according to Shukla (2019). Meanwhile, according to Ari and Yılmaz (2016), the policy to support is also essential as it could influence consumer behavior in changing their habits in line with implementing new policies.

This study aims to explore consumers' intentions to purchase products with eco-friendly packaging by incorporating a modified Theory of Planned Behavior model that adds environmental concern and policy support as mediators. The study contends that if consumers possess positive attitudes, subjective norms, perceived behavioral control, environmental concern, and policy support, their intention to purchase eco-friendly products is to be realized. Although numerous studies have been conducted on green products, research on eco-friendly packaging is still limited, especially in developing countries such as Indonesia (Trivedi et al. 2018). Focusing on Generation Z in the context of eco-friendly packaging products, such

as in Indonesia, is considered necessary because this generation dominates the population. However, research on their behavior regarding environmental issues is still scarce (Dabija et al. 2019; Chillakuri, 2020). This could serve as a strong foundation for understanding the factors that influence Generation Z's purchase intentions toward eco-friendly packaging and the design of marketing strategies, as well as contribute valuable insights to developing policies that support the use of eco-friendly products. Based on this research gap, this study aims to analyze the factors influencing Generation Z's intention to purchase products with eco-friendly packaging and identify strategies for enhancing Generation Z's purchase intention.

METHODS

This study used a quantitative and cross-sectional design approach, collecting data simultaneously. Data were collected from August to October 2023 by distributing questionnaires using Google Forms. The data were collected via the distribution of questionnaires to undergraduate programs at IPB University, yielding a total of 256 respondents using a voluntary response sampling model. A questionnaire was created based on previous research and employed a five-point Likert scale. Structural Equation Modeling (SEM), with a Partial Least Squares (PLS) approach, was employed in this study as the analysis method. In PLS-SEM, model evaluation encompasses two principal aspects: outer model evaluation and inner model evaluation. In the case of reflective measurement models, as constructed in this study, the primary focus is evaluating the outer model regarding reliability and validity. In the inner model (structural model), the focus shifts to examining the R-squared (R^2) values of endogenous latent variables and the coefficients of each path (Hair et al. 2014). Once the results of the hypothesis testing have been obtained, the subsequent strategy could be formulated using Importance Performance Map Analysis (IPMA). This approach is employed to evaluate the significance of variables following their total influence on the constructs and their performance based on the scores of latent variables (Hair et al. 2014). The minimum sample size was determined based on a prior calculation of the SEM analysis, which involves estimating five times the number of parameters. A minimum sample size of 180 was required based on the study by Bentler and Chou (1987) because of the 36 parameters.

Environmental concern, representing an individual's level of concern or concern regarding environmental issues, is a primary factor in predicting one's behavior towards eco-friendly products. Jaiswal and Kant (2018) posited that environmental concern is pivotal in forecasting consumer behavior toward eco-friendly products. Additionally, prior research by Shukla (2019) suggests that environmental concern significantly influences consumer intentions to purchase eco-friendly products. Moreover, the Theory of Planned Behavior (TPB) variables have been demonstrated to mediate the relationship between environmental concern and purchase intention (Paul et al. 2016; Chaudhary & Bisai, 2018). It is, therefore, hypothesized that the level of environmental concern among individuals significantly affects their intention to purchase eco-friendly packaged products. The following hypotheses are proposed: H₁: The level of environmental concern among individuals will enhance their intention to purchase products with eco-friendly packaging.

Santos et al. (2013) argued that policies related to enacting laws and enforcing measures to safeguard the environment and prevent degradation are essential. His research indicates that most consumers claim to change their habits in response to new laws, choosing to adopt alternative behaviors. Similarly, Wan et al. (2014) found that government prohibitions and policies correlate strongly with individual behaviors and attitudes. According to Kumar et al. (2022), policies perceived as effective in promoting environmental sustainability can indirectly influence purchasing intentions through attitudes. Therefore, support for such a policy could influence consumers' intention to purchase eco-packaged products. Hypothesis study is H₂: Individuals who support government policies related to the environment are likely to increase their intention to purchase products with eco-friendly packaging.

Consumer attitudes towards environmentally friendly products reflect their positive or negative feelings, influencing purchasing behavior (Varah et al. 2021). The impact of attitudes on purchasing behavior across countries and types of green products has been positively demonstrated in various studies (Chaudhary & Bisai, 2018). Therefore, having a favorable attitude towards green products would influence the intention to purchase eco-packaged products. Thus, our hypothesis is as follows: H₃: Individuals who hold positive attitudes towards eco-friendly products tend to increase

their intention to purchase products with eco-friendly packaging.

Subjective norms are social pressures based on individual feelings. These factors determine an individual's intention to purchase green products. Previous researchers have highlighted that subjective norms could positively affect consumers' intentions to choose eco-friendly products (Sun & Wang, 2019). Other studies also affirm that subjective norms could significantly explain the intention to purchase green products (Noor et al. 2017). Therefore, subjective norms could influence the purchase intention of products with eco-packaging. A hypothesis is as follows: H₄: Individuals who are part of social environments that value environmental conservation tend to influence individuals to use eco-friendly products, thereby increasing their intention to purchase products with eco-friendly packaging.

According to Sun & Wang (2019) research, external factors such as time, price, knowledge, and skills can influence an individual's behavior when shopping for environmentally friendly products. The study found that people tend to feel more in control of their behavior when believing they possess the necessary resources and face fewer obstacles. Asih et al. (2020) presented similar findings, highlighting the crucial role of behavioral control in determining the intention to shop for green products. Therefore, perceived behavioral control significantly impacts purchase intention for eco-packaged products. Hence, our hypothesis is as follows: H₅: Individuals who allocate their resources to using eco-friendly products tend to potentially increase their intention to purchase products with eco-friendly packaging.

Drawing from prior research and literature reviews, Figure 1 illustrates the framework developed in this study. Furthermore, the assessment of the construct's reliability and validity. Each construct was carefully assessed for both reliability and validity. Reflective constructs are considered reliable when their Cronbach's alpha (CA) ≥ 0.7 (Hair et al. 2014) and their cumulative reliability (CR) ≥ 0.6 (Hair et al. 2014). The validity of reflective constructs is determined through (a) Has Hair et al. (2014), loading factor ≥ 0.7 . (b) The accuracy and consistency in measuring instruments based on standards are indicated by an Average Variance Extracted (AVE) value of ≥ 0.5 . Table 1 indicates that the model employed is reliable and valid.

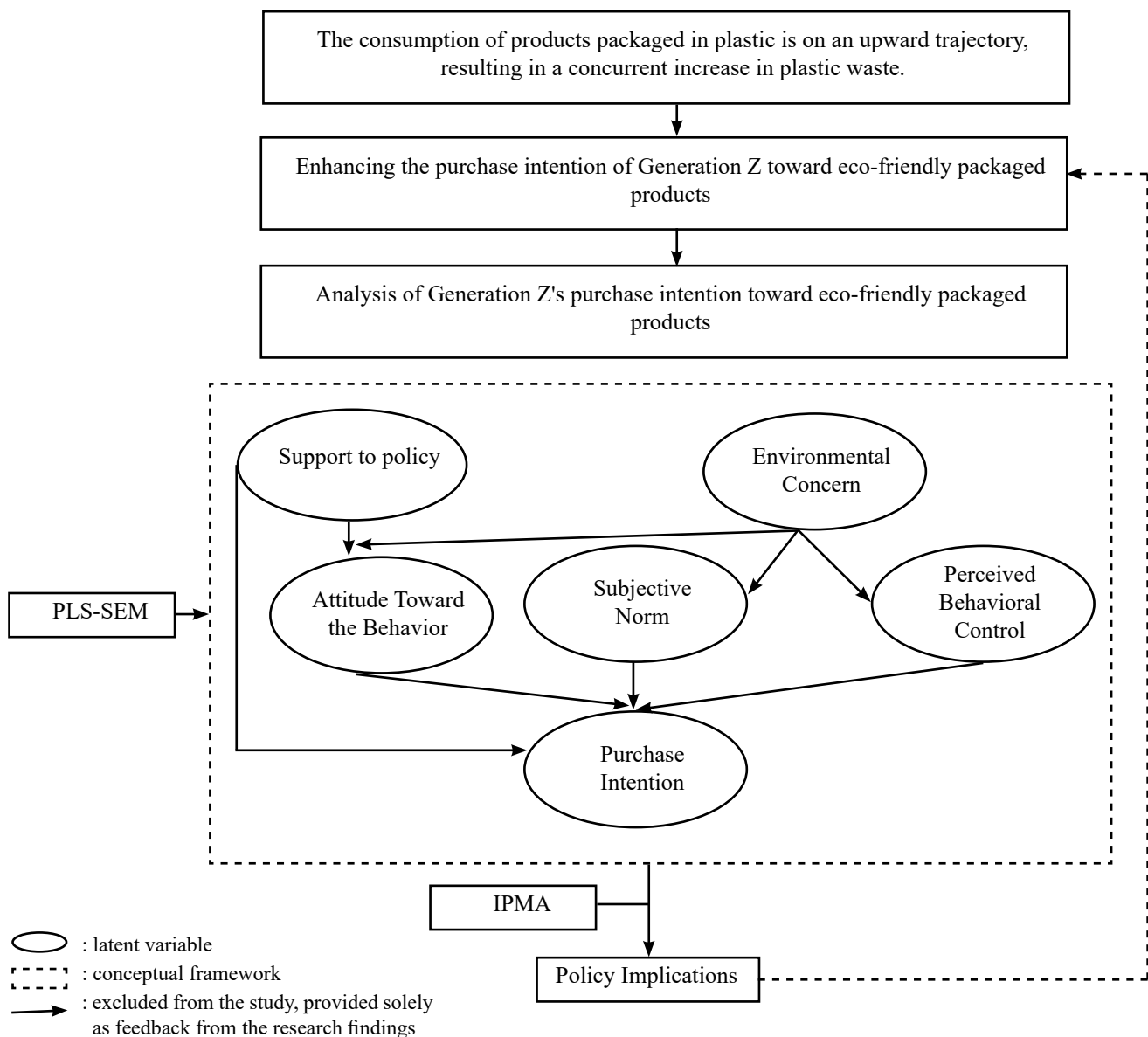


Figure 1. Research framework

RESULTS

Factors Influencing Purchasing Intention of Products with Eco-friendly Packaging

The structural model's reliability and validity were evaluated using the variance explained. The results indicate that all four endogenous variables and constructs achieved R^2 values above the threshold of 0.25, ranging from 0.411 to 0.802 (Figure 2), which suggests a higher prediction accuracy (Hair et al. 2014).

Figure 2 highlights the influence of several variables on purchase intention, including environmental concern, support for policy, attitude, subjective norms, and perceived behavioral control. Significant testing results could be observed through the bootstrapping test in SmartPLS. The t-statistics values of the path coefficients indicate the significance level, which must be >1.96 , $\alpha=5\%$ (Hair et al. 2014). Standardized path coefficients (β) examine the extent to which exogenous variables contribute to explaining the variance of endogenous variables using bootstrap estimation. For a detailed examination of the causal effects of the research variables, some answers to the formulated hypotheses can be found in Table 2.

Table 1. Reliability and validity result

Construct and Items	Factor Loading	CA	CR	AVE
Environmental concern		0.814	0.877	0.642
Highly aware of the environment	0.875***			
Implementing environmental, social, and political changes is necessary to achieve ecological goals	0.736***			
The willingness to reduce consumption for the sake of the environment	0,800***			
Anti-pollution legislation must be rigorously enforced	0.788***			
Support to policy		0.897	0.924	0.708
The producer must dispose of post-consumption waste in an environmentally responsible manner	0.865***			
Favor usage prohibition of disposable plastic	0.845***			
Supports prohibition of use plastic bags	0.848***			
Support for the subtraction of plastic from shopping centers	0.803***			
The necessary to provide support for the improvement of the governance system and to manage waste	0.843***			
Attitude		0.914	0.936	0.745
The paramount importance of considering environmental protection when making purchases	0.882***			
Consideration of the idea of green purchasing	0.826***			
Adopt an assured stance towards green-conscious products	0.907***			
A good idea to purchase green products	0.907***			
Inclined to favor the purchase of a green product	0.789***			
Subjective norm		0.891	0.920	0.697
The influence of people, which is considered important	0.801***			
People's perceptions about the push in purchasing	0.860***			
Valued people prefer to buy a product with a green package	0.852***			
Effect of person around to buy or use	0.790***			
Perceived influential role of friends in purchase decisions	0.868***			
Perceived behavioral control		0.891	0.924	0.753
Have purchasing power	0.891***			
Confidence to buying	0.879***			
Have the resources, time, and willingness to make the purchase	0.839***			
Feeling confident about being able to continue to buy in the future	0.860***			
Purchase intention		0.889	0.918	0.692
Planning to make a purchase	0.871***			
Consider switching to eco-friendly products	0.813***			
Spending money on more environmental products	0.844***			
Will be a buyer shortly	0.845***			
Consider purchasing products that are packaged in an eco-friendly manner	0.785***			

Note: ***p<0.01, **p<0.05, *p<0.10

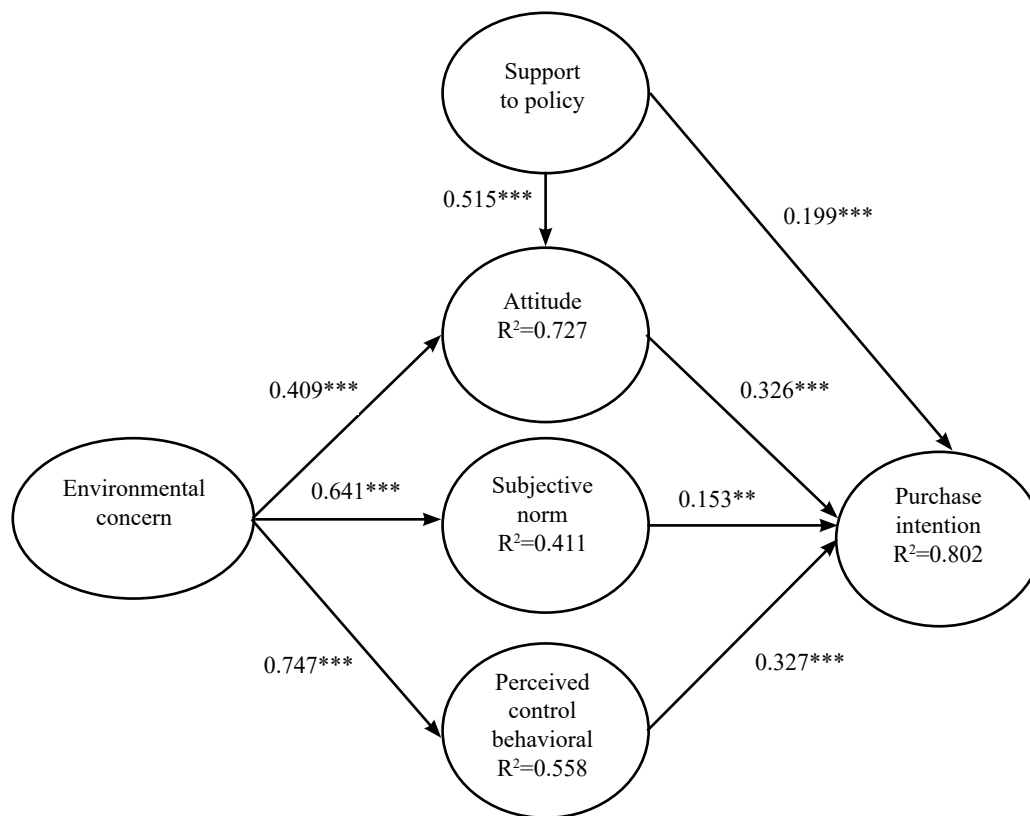


Figure 2. Result of the research model (***Significant at $p < 0.01$, ** Significant at $p < 0.05$, * Significant at $p < 0.10$)

Table 2. The influence of explanatory variables on purchase intention

The causal relationship between research variables	Total Effect	T-statistic	P-value	Hypothesis
Environmental concern → purchase intention	0.475***	11.147	0.000	Proven
Policy to support → purchase intentions	0.367***	7.586	0.000	Proven
Attitude → purchase intention	0.326***	5.348	0.000	Proven
Subjective norm → purchase intention	0.153***	3.294	0.001	Proven
Perceived behavioral control → purchase intention	0.327***	5.523	0.000	Proven

***Significant at $p < 0.01$, ** Significant at $p < 0.05$, * Significant at $p < 0.10$

The standardized path coefficient estimation results between the explanatory variables and purchase intention towards products with eco-friendly packaging among Generation Z indicate a positive and significant relationship. These findings support Hypothesis 1, which posits that individuals' environmental concern could enhance their intention to purchase products with eco-friendly packaging. Environmental concern exerts a total effect on purchase intention with $\beta = 0.475$ and $p = 0.000$ (Table 2), indicating that environmentally conscious individuals are inclined to support sustainability by choosing products with eco-friendly packaging as part of their environmental conservation efforts. This is consistent with Jaiswal & Kant (2018) and Shukla (2019), who posit that individuals' environmental concern is a significant determinant of their intention to purchase eco-friendly products. Furthermore, results

indicate that environmental concern was associated with purchase intention through mediators from the TPB variables (i.e., attitude, subjective norms, and perceived behavioral control) (Figure 2). Although these results do not demonstrate a more pronounced influence than its overall effect on purchase intention regarding products with eco-friendly packaging, they indicate that individuals with heightened environmental concern tend to exhibit positive attitudes toward such products. Such individuals are more likely to engage with like-minded individuals who value the environment, motivating them to purchase eco-friendly products and allocate resources towards their use. This, in turn, increases their intention to purchase products with eco-friendly packaging. These findings align with those of Paul et al. (2016) and Chaudhary & Bisai (2018), who demonstrated that TPB predictors mediate

the relationship between environmental concern and purchase intention. Additionally, Chen & Tung (2014) highlighted the pivotal role of environmental concern in promoting environmentally friendly behaviors, influencing individuals' purchase intentions through attitudes, subjective norms, and perceived behavioral control perceptions.

The hypothesis test results indicate that Hypothesis 2 is accepted ($\beta=0.367$; $p=0.000$). This implies that an increase in support for government policies on plastic waste may be accompanied by a corresponding rise in the inclination to utilize eco-friendly products. This finding is consistent with the findings of Wan et al. (2014), who demonstrated that individuals' perceptions of policy effectiveness significantly predict their behavioral intention toward those policies. Moreover, this study demonstrates that support for policies influences purchase intention through attitudes (Figure 2). This suggests that elevated levels of support for policy are associated with more favorable attitudes, which may subsequently influence individuals' behavior to align with that policy. This finding is consistent with the proposition by Kumar et al. (2022), who suggest that support for policies indirectly affects purchase intention through attitudes, particularly when consumers perceive the policy as effective in promoting environmental sustainability. Sinaga & Sitorus (2023) also indirectly propose that support for policies could influence consumer attitudes, which subsequently affects their intention to purchase. In conclusion, these findings emphasize the impact of policy support on attitudes and consumer behavior toward eco-friendly products, emphasizing its indirect influence through attitude mediation on purchase intention.

The results indicated that an individual's attitude towards behavior positively and significantly influences their intention to purchase products with eco-friendly packaging ($\beta=0.326$; $p=0.000$) (Table 2). This supports Hypothesis 3, indicating that individuals with a positive attitude towards eco-friendly products are more likely to enhance their purchase intention toward such products with eco-friendly packaging. The more positive the consumers' attitudes toward the environment, the more their interest in purchasing and using products with eco-friendly packaging increases. Moreover, a positive attitude toward eco-friendly products could be a good starting point for motivating consumers to purchase such products (Prakash & Pathak, 2017). Varah et al. (2021) also identified a positive attitude toward

the environment influencing consumer behavior in purchasing green products. This research indicates that attitude is an essential predictor of purchase intention for eco-packaged products. Utilizing green products is one of the individual behaviors influenced directly by specific beliefs.

The result is also consistent with Hypothesis 4: the subjective norm has a positive and significant effect on the purchase intention of eco-packaged products ($\beta=0.153$; $p=0.001$) (Table 2). This finding is corroborated by Asih et al. (2020) and Varah et al. (2021), who suggest that increasing subjective norms may lead to an increase in the purchase of eco-friendly products. According to this study, people are more inclined to consume environmentally friendly products when they perceive positive environmental perceptions of eco-friendly behavior as essential and influential.

The bootstrap estimation results also indicate that Hypothesis 5 is supported, showing that perceived behavioral control positively and significantly influences purchase intention for products with eco-friendly packaging ($\beta=0.327$; $p=0.000$) (Table 2). Perceived behavioral control is directly and significantly related to the purchase intention for eco-friendly packaged products (Chaudhary & Bisai 2018; Varah et al. 2021). Paul et al. (2016) state that perceived behavioral control is a good predictor of an individual's intention to purchase eco-friendly products. This study reveals that individuals with higher levels of perceived behavioral control tend to engage in intentional and unintentional purchases, considering the long-term consequences and comparing shopping before purchasing.

Strategies to Increase Purchase Intention of Products with Eco-friendly Packaging

Based on the results of the obtained hypothesis, strategies could be formulated using the Importance Performance Map Analysis (IPMA) matrix. IPMA analysis measures the importance of variables based on the total effect received by the constructs and their performance based on latent variable scores (Hair et al. 2014).

According to the analysis results presented in Table 3, it could be concluded that environmental concern is a crucial factor that needs to be strengthened to increase the intention to purchase eco-packaged products. Despite having a high importance score, its performance was still below the average. This finding indicates that

despite research being conducted in environments that have implemented eco-friendly practices, there is still a lack of environmental awareness. This underscores the necessity of increasing societal awareness, particularly in light of research findings indicating that generations perceived as environmentally friendly and highly educated continue to exhibit inadequate concern for the environment.

The lack of awareness regarding the ecological impact of non-eco-friendly packaging and the difficulty in changing deeply ingrained habits are the primary factors contributing to the low awareness of this generation regarding the environment. Although campus environments and other environmentally friendly settings offer the potential for direct experiences with environmental conservation efforts, the challenge remains in achieving sustainable behavior change by altering previously established consumption behaviors. Due to a lack of awareness regarding the environmental impact of non-environmentally friendly packaging and difficulties in changing habits (Auliandri et al. 2018). Therefore, it may be beneficial to consider taking additional measures to enhance the performance of this variable, particularly in Generation Z. This underscores the critical role of Generation Z in environmental sustainability, as the long-term consequences of current environmental actions impact it.

Furthermore, the analysis results in Table 3 also indicate that perceived behavioral control, as an endogenous variable, significantly influences Generation Z's intention to purchase products with eco-friendly packaging. Although this factor is significant, its performance is considered inadequate, with below-average scores. This suggests that Generation Z still faces challenges in changing its behavior regarding eco-friendly products. Financial resource limitations, lack of specific product information, and low awareness of eco-friendly packaging solutions are inhibiting

factors Generation Z faces in improving their behavior. Ketelsen et al. (2020) highlight the crucial role of collaborative education between government and non-governmental organizations in addressing these barriers. Corporate commitment to environmental sustainability is also crucial for increasing the use of environmentally friendly products and promoting eco-friendly packaging. With these efforts, it is hoped that young consumers' perceptions and awareness regarding the purchase of environmentally friendly products could be increased, thereby encouraging a higher intention to purchase these products (Auliandri et al. 2018).

Managerial Implications

The IPMA analysis findings allow for the formulation of implications for stakeholders to enhance environmental consciousness, particularly concerning the IPB University community. This community has already implemented environmentally friendly practices, but student environmental awareness is inadequate. This underscores the necessity of integrating practical experiences and educational initiatives to foster a culture of awareness and responsibility among Generation Z. In this regard, strategies to enhance environmental consciousness, particularly within an educational context, include involving students in waste management activities to transform waste into valuable products, enhancing environmental knowledge, and sustaining volunteer programs by strengthening the connections forged during voluntary activities among students to ensure ongoing environmental commitment over time. Furthermore, implementing innovative pedagogical approaches, such as problem-based learning and mind mapping, could facilitate the development of affective competencies and cultivate positive attitudes toward environmental issues among students.

Table 3. Exogenous and endogenous variables influencing purchasing intentions

Variable	Importance	Performances
Environmental concern	0.464	77.235
Support to policy	0.349	82.838
Average	0.406	80.037
Attitude	0.329	85.931
Subjective norm	0.139	72.348
Perceived behavioral control	0.308	78.793
Average	0.259	79.024

Moreover, marketing eco-friendly packaged products and formulating policies designed to encourage Generation Z to utilize such products would ultimately impact environmental sustainability in the future. Stakeholders, including marketers and policymakers, are encouraged to utilize social media campaigns to disseminate information regarding the advantages of eco-friendly packaging to Generation Z. Effective marketing strategies and green education programs can help increase environmental awareness among young consumers. Clear, objective language and avoiding biased or emotional language can convey positive messages about eco-friendly packaging products to Generation Z consumers. Emphasizing the potential consequences of unsustainable consumption is essential. It is necessary to encourage consumers to use sustainable products to benefit both humans and biodiversity. Youth activation can be enhanced through social media campaigns to raise awareness about plastic pollution. Policymakers should also consider implementing stricter regulations regarding single-use plastics, exploring sustainable management alternatives, and supporting activist workers and social entrepreneurs. Collaboration with environmental organizations, including young people, is obligatorily embraced to support green education initiatives already undertaken in the wider community.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This research demonstrates the factors influencing the increase in purchase intention of products with eco-friendly packaging among Generation Z, which are environmental concern, policy to support, perceived behavioral control, attitudes toward eco-friendly products, and subjective norms positively and significantly influence Generation Z's intention to purchase products with eco-packaged. The findings emphasize the importance of environmental concern and perceived behavioral control in enhancing purchasing intentions while also identifying areas for further research and action by stakeholders to promote sustainable behavior and achieve environmental sustainability, particularly among the youth.

Recommendations

Imperative that manufacturers of eco-friendly packaging and governments continue to strategize policy implications. It is hoped that green education programs could be implemented on campus within the IPB University environment. Further research is encouraged to analyze purchasing behavior by incorporating economic values. It is important to note that this study only discusses purchasing intentions and may lack a deeper understanding of consumer behavior. Moreover, to increase the applicability of the findings, further research could expand its geographic reach to include a wider variety of regions beyond those examined in this study, as the sample may not provide a complete representation of the entire Generation Z consumer population in Indonesia.

FUNDING STATEMENT: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

CONFLICTS OF INTEREST: The authors declare no conflict of interest.

REFERENCES

- Ajzen I. 1991. The theory of planned behavior. *Organizational Behavior and Human Decision Processes* 50(2):179–211.
- Al-Kindi LAH, Al-Baldawi Z. 2021. Green packaging for durable engineering products in Iraqi markets. *IOP Conference Series: Earth and Environmental Science* 779(1):012004. <https://doi.org/10.1088/1755-1315/779/1/012004>.
- Asih D, Setini M, Soelton M, Muna N, Putra IGC, Darma DC, Judiarni JA. 2020. Predicting green product consumption using the theory of planned behavior and reasoned action. *Management Science Letters* 29:3367–3374. <https://doi.org/10.5267/j.msl.2020.5.042>.
- Auliandri TA, Armanu, Rohman F, Rofiq A. 2018. Does green packaging matter as a business strategy? Exploring young consumers' consumption in an emerging market. *Problems and Perspectives in Management* 16(2):376–384. [https://doi.org/10.21511/ppm.16\(2\).2018.34](https://doi.org/10.21511/ppm.16(2).2018.34).
- Bentler PM, Chou C-P. 1987. Practical Issues in Structural Equation Modeling. *Sociological Methods & Research* 16(1). <https://doi.org/10.1>

177/0049124187016001004.

- BPS. 2021 Jan 22. Jumlah Penduduk menurut Wilayah, Klasifikasi Generasi, dan Jenis Kelamin, Indonesia, Tahun 2020. *Badan Pusat Statistik (BPS)*. <https://sensus.bps.go.id/topik/tabular/sp2020/2/1/0>. [2023 Mei 1].
- Casalegno C, Candelo E, Santoro G. 2022. Exploring the antecedents of green and sustainable purchase behavior: A comparison among different generations. *Psychol Mark* 39(5):1007–1021. <https://doi.org/10.1002/mar.21637>.
- Channa IA, Ashfaq J, Gilani SJ, Chandio AD, Yousuf S, Makhdoom MA, Jumah MN bin. 2022. Sustainable and Eco-Friendly Packaging Films Based on Poly (Vinyl Alcohol) and Glass Flakes. *Membranes (Basel)* 12(7):701. <https://doi.org/10.3390/membranes12070701>.
- Chaudhary R, Bisai S. 2018. Factors influencing green purchase behavior of millennials in India. *Management of Environmental Quality: An International Journal* 29(5):798–812. <https://doi.org/10.1108/MEQ-02-2018-0023>.
- Chen M-F, Tung P-J. 2014. Developing an extended Theory of Planned Behavior model to predict consumers' intention to visit green hotels. *International Journal of Hospitality Management* 36: 221–230. <https://doi.org/10.1016/j.ijhm.2013.09.006>.
- Chillakuri B. 2020. Understanding Generation Z expectations for effective onboarding. *Journal of Organizational Change Management* 33(7): 1277–1296. <https://doi.org/10.1108/JOCM-02-2020-0058>.
- Coderoni S, Perito MA. 2020. Sustainable consumption in the circular economy. An analysis of consumers' purchase intentions for waste-to-value food. *Journal of Cleaner Production* 252:119870. <https://doi.org/10.1016/j.jclepro.2019.119870>.
- Dabija D-C, Bejan BM, Dinu V. 2019. How sustainability oriented is Generation Z in retail? A literature review. *Transformations in Business & Economics* 18(2):140–155.
- Danareksa. 2023. Tren Produksi dan Konsumsi Plastik di Indonesia. *Danareksa Research Institute*. <https://www.danareksa.co.id/storage/2023/other/641444d08d734.pdf>. [2023 Jul 30].
- Evode N, Qamar SA, Bilal M, Barceló D, Iqbal HMN. 2021. Plastic waste and its management strategies for environmental sustainability. *Case Studies in Chemical and Environmental Engineering*. 4:100142. <https://doi.org/10.1016/j.cscee.2021.100142>.
- Hair JF, Hult GTM, Ringle CM, Sarstedt M. 2014. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks, CA: Sage.
- Jaiswal D, Kant R. 2018. Green purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers. *Journal of Retailing and Consumer Services* 41:60–69. <https://doi.org/10.1016/j.jretconser.2017.11.008>.
- Ketelsen M, Janssen M, Hamm U. 2020. Consumers' response to environmentally-friendly food packaging - A systematic review. *Journal of Cleaner Production* 254:120123. <https://doi.org/10.1016/j.jclepro.2020.120123>.
- Kumar N, Garg P, Singh S. 2022. Pro-environmental purchase intention towards eco-friendly apparel: Augmenting the theory of planned behavior with perceived consumer effectiveness and environmental concern. *Journal of Global Fashion Marketing* 13(2):134–150. <https://doi.org/10.1080/20932685.2021.2016062>.
- Noor MNM, Jumain RSA, Yusof A, Ahmat MAH, Kamaruzaman IF. 2017. Determinants of generation Z green purchase decision: A SEM-PLS approach. *International Journal of Advanced and Applied Sciences* 4(11):143–147. <https://doi.org/10.21833/ijaas.2017.011.023>.
- Paul J, Modi A, Patel J. 2016. Predicting green product consumption using the theory of planned behavior and reasoned action. *Journal of Retailing and Consumer Services* 29:123–134. <https://doi.org/10.1016/j.jretconser.2015.11.006>.
- Peter JP, Olson JC. 2008. *Consumer Behavior and Marketing Strategy*. 8 th. Singapore: McGraw-Hill.
- Prakash G, Pathak P. 2017. Intention to buy eco-friendly packaged products among young consumers of India: A study on developing nation. *Journal of Cleaner Production* 141:385–393. <https://doi.org/10.1016/j.jclepro.2016.09.116>.
- Priporas C-V, Stylos N, Fotiadis AK. 2017. Generation Z consumers' expectations of interactions in smart retailing: A future agenda. *Computers in Human Behavior* 77:374–381. <https://doi.org/10.1016/j.chb.2017.01.058>.
- Santos SC, Sousa CVE, Sampaio D de O, Fagundes AFA. 2013. A influência da utilização das sacolas compostáveis no comportamento do consumidor de Belo Horizonte. *Ambiente & Sociedade* 16(4):1–18. <https://doi.org/10.1590/>

S1414-753X2013000400002.

- Shafira N, Sarma M, Johan IR. 2022. Factors influencing consumer purchase decisions for aqua life indonesia products: analysis of ecolabel awareness, green marketing mix, and brand image. *Jurnal Manajemen dan Agribisnis* 19(2): 274–287. <https://doi.org/10.17358/jma.19.2.274>.
- Shukla S. 2019. A study on millennial purchase intention of green products in india: applying extended theory of planned behavior model. *Journal of Asia-Pacific Business* 20(4):322–350. <https://doi.org/10.1080/10599231.2019.1684171>.
- Sinaga AAP, Sitorus SA. 2023. The role of consumer attitude and renewable energy towards environmental friendly policies in the intention to comply with the paid plastic environmental friendly policy. *International Journal of Energy Economics and Policy* 13(1):14–21. <https://doi.org/10.32479/ijeep.13612>.
- SIPSN. 2024. Capaian Kinerja Pengelolaan Sampah. Jakarta. <https://sipsn.menlhk.go.id/sipsn/>. [2024 Mar 15].
- Sun Y, Wang S. 2019. Understanding consumers' intentions to purchase green products in the social media marketing context. *Asia Pacific Journal of Marketing and Logistics* 32(4):860–878. <https://doi.org/10.1108/APJML-03-2019-0178>.
- Tan CNL, Ojo AO, Thurasamy R. 2019. Determinants of green product buying decision among young consumers in Malaysia. *Young Consumers* 20(2):121–137. <https://doi.org/10.1108/YC-12-2018-0898>.
- Trivedi RH, Patel JD, Acharya N. 2018. Causality analysis of media influence on environmental attitude, intention and behaviors leading to green purchasing. *Journal of Cleaner Production* 196:11–22. <https://doi.org/10.1016/j.jclepro.2018.06.024>.
- Varah F, Mahongnao M, Pani B, Khamrang S. 2021. Exploring young consumers' intention toward green products: Applying an extended theory of planned behavior. *Environment, Development and Sustainability* 23:9181–9195. <https://doi.org/10.1007/s10668-020-01018-z>.
- Wan C, Shen GQ, Yu A. 2014. The role of perceived effectiveness of policy measures in predicting recycling behaviour in Hong Kong. *Resources, Conservation and Recycling* 83:141–151. <https://doi.org/10.1016/j.resconrec.2013.12.009>.