

Analysis of Consumer Buying Interest in Sanitary Napkin Products that are Green Products

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ABSTRACT

Environmentally friendly products are designed and produced without causing adverse environmental impacts, including the use of sustainable materials. This is particularly important for sanitary napkin products, which serve as vital support for women during menstruation. For Generation Z women, sanitary napkins are not only viewed as protective products but also as a reflection of environmental values that enhance self-confidence in social interactions. This study aims to examine the factors influencing Generation Z's purchase intention of green sanitary napkin products, focusing on the role of environmental values (environmental awareness, consumption value, and eco-label). This quantitative research employed a purposive sampling technique involving 100 female respondents from Generation Z in Malang who have experience using eco-friendly sanitary napkin products. The measurement of research variables was conducted using validated and reliable instruments, with reliability confirmed by Cronbach's Alpha and Composite Reliability (CR) tests, and validity tested through convergent and discriminant validity. Data were analyzed using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) method following the stages of model measurement (outer model), structural model (inner model), and hypothesis testing. The results show that eco-labels do not significantly influence purchase intention, while environmental awareness and consumption value have a significant effect. This indicates that although Generation Z in Malang is aware of the importance of environmental protection, eco-labels are not the main factor in their purchasing decisions. Instead, their understanding of the value and benefits of environmentally friendly products plays a more dominant role.

Keywords: Awareness, Consumption Values, Eco-Label, Environmental value, Purchase Intention.



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INTRODUCTION

In the era of globalisation, intense business competition makes companies required to compete competitively with competing products in terms of attracting consumers. Sanitary napkins are a product that is a mandatory consumption for every woman, so that women who are menstruating can carry out their daily activities as usual (Suhanti, 2021). Currently there are 131 million people, half of whom are active users of sanitary napkins, so more than 60 million people are a very potential market opportunity to do (Nur'aini et al., 2022).

Market competition in the sanitary napkin industry is progressing rapidly as the number of women of childbearing age increases from year to year. Women who have reached puberty experience menstruation every month for approximately 5 to 7 days. Various types of sanitary napkins are available, among which the most popular are disposable or conventional sanitary napkins. This type of sanitary napkin is mass-produced with materials used from recycled paper through various chemical processes with sterilisation and bleaching processes, which are not environmentally friendly. Currently, several companies have produced environmentally friendly sanitary napkins including Charm, Softex, Avail, Laurier and Natesh. These sanitary napkin products have the advantage of being hypoallergenic, easy to decompose, do not cause infection and prevent reproductive cancer (Pristya & Amalia, 2021).

In this study, the researcher analysed the green product of environmentally friendly sanitary napkins and environmental value among Generation Z. The results of the researcher's observation found that concern for the environment, environmentally friendly practices, awareness of environmentally friendly products, awareness of higher prices for environmental sustainability and intention to buy environmentally friendly products are very relevant to generation Z products. This research is expected to find the influence of local people's environmental practices and purchase intentions in making purchasing decisions for environmentally friendly products where gen Z is a generation that is familiar with social media and uses it in their daily lives.

Previous research by (Riptiono & Yuntafi'ah, 2021) suggested that not all women are aware of the health of their female organs since a lot of ladies don't care about using high-quality panty liners. Research by (Seifany et al., 2023) suggests that consumers are accustomed to using disposable sanitary napkins for reasons of allergies and reduced fertility so they do not want to switch to other environmentally friendly products. Another study by (Lukiarti, 2021) suggests that producers do not want to be abandoned by their customers and must immediately change their marketing concept, because slowly environmental awareness in consumers will be created and consumers will be more selective in choosing products to be consumed. Furthermore, (Leni et al., 2023) argued That there is still a lack of education on menstruation management and the right use of sanitary napkins, which may lead to their inappropriate usage.

Based on a review of previous studies using VOSviewer bibliometric analysis, it can be concluded that there is still a research gap regarding the relationship between green product purchase intention and environmental value specifically in the context of sanitary napkin products among Generation Z. The *state of the art* and novelty of this research lie in integrating the concepts of green product usability and product life cycle, which are rarely discussed simultaneously in previous studies. This research highlights that eco-friendly sanitary napkins are not only designed to reduce waste generation but also to extend the product's life cycle through sustainable production processes, such as the use of biodegradable materials, minimal packaging, and efficient distribution systems. Moreover, this study emphasizes that the product's usability aspect, referring to consumer acceptance, comfort, and functional quality, is essential for ensuring the continuous use of green products by Generation Z. The novelty also lies in how this research connects these two aspects to sustainable development goals (SDGs), particularly responsible consumption and production (SDG 12), by explaining how environmentally friendly sanitary napkins contribute to reducing environmental waste through conscious production and consumption systems. By focusing on both

the implementation system and consumer behavior, this research provides a more comprehensive perspective on how green product activities can directly enhance environmental value and waste reduction in the context of Gen Z's purchasing decisions.

Generation Z's concern for the environment in relation to sanitary napkins begins with their usage of single-use napkins and cleanliness practices and extends into their approach to waste management. All aspects of using one-time sanitary napkins, such as the way they are used, how often they are used, and the effects of the product itself, can have an effect on one's health. This study traces the origins, methods, and consequences of waste management as it relates to sanitary napkins and health. When considering the effects of waste management on health and the environment, it is important to keep in mind that sanitary napkin products should ideally be made from natural, biodegradable materials that do not pose any threats to long-term environmental sustainability. This would have a positive effect on both human and environmental health.

The goal of this research is to find out how eco-labelling, consumption value, environmental consciousness, and customer interest in buying items are related. Based on the above background, the problem formulation is:

1. What is consumer behaviour in choosing sanitary napkin products made from environmentally friendly materials.
2. Does environmental value (awareness, consumption values and eco-label) affect the purchase intention of green products among Gen-Z consumers?

METHODS

The framework is that environmental value (awareness, consumption values and eco-label) affects purchasing decisions.

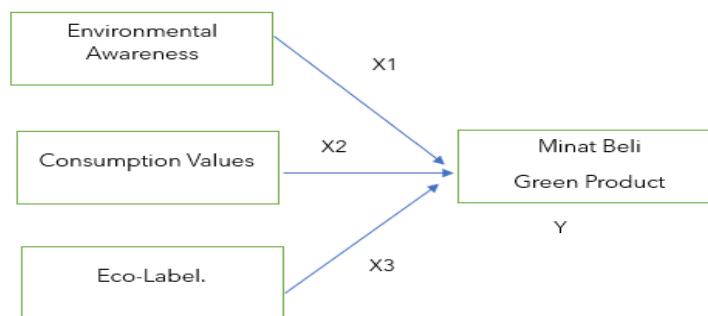


Figure 1: Research Model (Frame Work)

Source: Research Results

This study uses quantitative research methodology to examine the causal relationship between variables and related factors. The demographic is Gen Z customers who have used green products. The sample was selected based on certain criteria, namely those aged 17 to 26, who have used various green products. The study was classified as part of an infinite population due to the unknown population size. The sample size was adjusted to accommodate the structural equation modelling (SEM) analysis approach, with 10 indicators and a minimum sample size of 100. Primary data were collected through a questionnaire that was structured using a Likert scale. Utilizing SmartPLS software, this study utilized PLS-SEM analysis, to analyse the raw data. PLS-SEM is relevant for verifying theoretical frameworks and combining different constructs, indicators and connection models. The problem-solving process involves several stages, including describing variable

relationships and hypotheses. Measurement model test and structure test are the two parts that make up the testing procedure.

RESULTS AND DISCUSSION

Outer Model Testing

Convergent Validity

Finding out whether each indicator's link with its underlying concept or latent variable is legitimate is the goal of convergent validity. For this analysis, we'll assume a loading factor limit of 0.60.

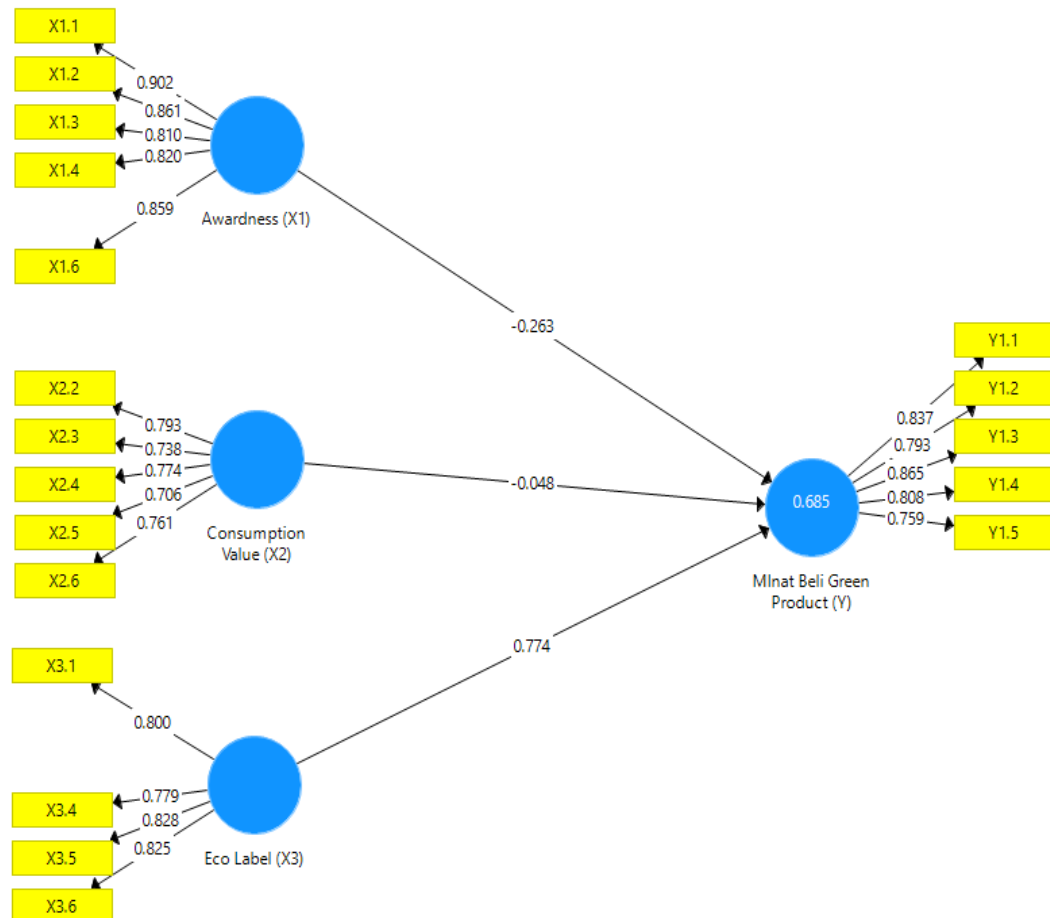


Figure 2. Research model with SmartPLS

Source: Research Results

Figure 2 displays the outcomes of the convergent validity study conducted on a research model that sought to comprehend the elements impacting customer interest in purchasing environmentally friendly items. At first, there are too many indicators with loading factor values below 0.60 for the outer model value or construct-variable correlation to satisfy convergent validity. Convergent validity tests how well the indicators measure the intended latent construct. This is indicated by the loading factor on each indicator, which indicates the strength of the relationship between the indicator and its latent construct (Chin, 1998; Wu et al., 2004; Yuan et al., 2023).

All loading factors are greater than 0.60 (a commonly used threshold), indicating that the indicators validly measure their respective latent constructs (Hair et al., 2021; Hair Jr. et al., 2017). The highest

loading factor value is 0.902 (X1.1), indicating that this indicator is very strong in measuring the Awareness construct. In addition, this figure also shows the connection between the latent variables that are considered independent and the dependent variable, which in this case is the intention to purchase green products. This relationship is represented by the path coefficient. For example, the path coefficient of 0.685 between Consumption Value and Green Product Purchase Intention indicates a fairly strong positive relationship, meaning that the higher the value consumers perceive from consuming green products, the higher their purchase intention. The path coefficient between awareness and the intention to purchase green products is -0.263, indicating a mild negative association.

Table 1. Loading values that fulfil the construct

Indicators	Loading Value	Description
X1.1	0.902	Meets convergent validity
X1.2	0.861	Meets convergent validity
X1.3	0.810	Meets convergent validity
X1.4	0.820	Meets convergent validity
X1.6	0.859	Meets convergent validity
X2.2	0.793	Meets convergent validity
X2.3	0.738	Meets convergent validity
X2.4	0.774	Meets convergent validity
X2.5	0.706	Meets convergent validity
X2.6	0.761	Meets convergent validity
X3.1	0.800	Meets convergent validity
X3.4	0.779	Meets convergent validity
X3.5	0.828	Meets convergent validity
X3.6	0.825	Meets convergent validity
Y1.1	0.837	Meets convergent validity
Y1.2	0.793	Meets convergent validity
Y1.3	0.865	Meets convergent validity
Y1.4	0.808	Meets convergent validity
Y1.5	0.759	Meets convergent validity

Source: Research Results

As seen in Table 1. Each indicator's outer loading represents the degree to which it is related to the latent construct it is meant to assess. According to (Hair Jr. et al., 2017), a high loading value signifies a significant connection, suggesting that the indicator accurately portrays its underlying construct. According to these findings, all indicators have loading values higher than 0.60, which is the commonly acknowledged cutoff for showing sufficient convergent validity. This means that all indicators in this table are strongly correlated with their respective latent constructs, providing strong evidence that they validly measure their intended constructs (Hair et al., 2021). This finding is an important first step in establishing measurement validity in the research model. However, researchers should proceed with further tests, such as reliability tests to ensure the internal consistency of indicators, as well as discriminant validity tests to guarantee that all latent constructs may be differentiated from one another inside the model. Therefore, this table gives encouraging preliminary data on the study model's measurement quality (Chin, 1998).

Table 2. Outer Loadings

	Awardness (X1)	Consumption Value (X2)	Eco Label (X3)	Purchase Intention Green Product (Y)
X1.1	0,902			
X1.2	0,861			
X1.3	0,810			
X1.4	0,820			
X1.6	0,859			

X2.2	0,793		
X2.3	0,738		
X2.4	0,774		
X2.5	0,706		
X2.6	0,761		
X3.1		0,800	
X3.4		0,779	
X3.5		0,828	
X3.6		0,825	
Y1.1			0,837
Y1.2			0,793
Y1.3			0,865
Y1.4			0,808
Y1.5			0,759

Source: Research Results

Table 2 presents the outer loading results indicating the strength of the relationship between indicators and latent constructs in the research model of green product purchase intention. All reported outer loadings exceed 0.7, indicating strong convergent validity (Hair et al., 2021; Hair Jr. et al., 2017). This means that the indicators accurately and consistently measure the intended latent constructs, such as Awareness, Consumption Value, Eco Label, and Green Product Purchase Intention (Chin, 1998). In addition, each indicator contributes to only one latent construct, indicating clear and non-overlapping measurements (Gefen & Straub, 2005). These findings provide strong evidence that the latent constructs in this study are well defined and operationalised. These findings provide strong evidence that the measuring model is valid and reliable, which boosts faith in the outcomes of subsequent studies. According to (Hair et al., 2021; Hair Jr. et al., 2017), researchers should still examine the model's reliability and discriminant validity to make sure it's good overall.

If an indicator's loading factor value is less than 0.60, it can be removed from the model. Figure 2 and table 1 show the updated model, and all loading factors are more than 0.60, indicating that the structures for all variables are still present. According to (Hair et al., 2021), the constructs have been determined to have satisfied the convergent validity criterion.

Discriminant Validity

It is possible to exclude an indicator from the model if its loading factor value is below 0.60. All loading factors are more than 0.60, showing that the structures for all variables are still there, as seen in Figure 2 and table 1, which illustrate the modified model. The constructs were found to have met the convergent validity requirement, as reported by (Hair et al., 2021).

Table 3. Cross Loading

	Awardness (X1)	Consumption Value (X2)	Eco Label (X3)	Intention to Buy Green Product (Y)
X1.1	0,902	-0,219	-0,097	-0,275
X1.2	0,861	-0,106	-0,165	-0,458
X1.3	0,810	-0,186	-0,137	-0,247
X1.4	0,820	-0,165	0,063	-0,122
X1.6	0,859	-0,143	-0,178	-0,280
X2.2	-0,171	0,793	0,416	0,393
X2.3	0,058	0,738	0,409	0,280
X2.4	-0,073	0,774	0,466	0,273
X2.5	-0,072	0,706	0,329	0,229
X2.6	-0,316	0,761	0,510	0,423
X3.1	-0,041	0,434	0,800	0,697

X3.4	-0,252	0,336	0,779	0,556
X3.5	-0,128	0,476	0,828	0,544
X3.6	-0,095	0,584	0,825	0,708
Y1.1	-0,302	0,410	0,625	0,837
Y1.2	-0,128	0,320	0,694	0,793
Y1.3	-0,322	0,277	0,632	0,865
Y1.4	-0,376	0,434	0,653	0,808
Y1.5	-0,379	0,362	0,589	0,759

Source: Research Results

The study model's discriminant validity was evaluated using the cross loading findings, which are presented in Table 3 (Hair et al., 2021). According to (Esearch et al., 2016; Henseler et al., 2015), discriminant validity guarantees that all latent constructs are assessed in a distinct and independent manner. Because each indicator has a larger loading value on its original construct than its cross loading with other constructs, the results demonstrate that discriminant validity is fulfilled in general (Chin, 1998; Wu et al., 2004; Yuan et al., 2023). This indicates that the indicators are more representative of the original construct than other constructs (Gefen & Straub, 2005, 2018). However, there are some indicators with relatively high cross loading, especially X3.1 on the Green Product Purchase Intention (Y) construct, suggesting the possibility of conceptual overlap or lack of indicator specificity. Nonetheless, overall, the cross loading results provide good preliminary evidence regarding the discriminant validity of this model (Hair et al., 2021).

Average Variance Extracted (AVE)

The discriminant validity of any concept or latent variable may be examined using the AVE (Average Variance Extracted) approach. If the relationship between the two constructs in the model is smaller than the square root of the AVE (Average Variance Extracted) for each construct, then the model has superior discriminant validity.

Table 4. AVE (Average Variance Extracted)

	Average Variance Extracted (AVE)
<i>Awardness (X1)</i>	0,725
<i>Consumption Value (X2)</i>	0,570
<i>Eco Label (X3)</i>	0,653
<i>Intention to Buy Green Product (Y)</i>	0,661

Source: Research Results

The study model's discriminant validity is evaluated using the Average Variance Extracted (AVE) test, which is shown in Table 4 (Fornell & Larcker, 1981). AVE is a measure of how much of a concept's indicators' variance can be explained by the latent construct, as opposed to the measurement error-induced variance (Hair Jr. et al., 2017). All four latent constructs—Awareness, Consumption Value, Eco Label, and Green Product Purchase Intention had AVE values higher than 0.50, according to the data. Good convergence between the construct and its indicators is shown by the fact that the latent construct itself accounts for more than half of the variation in each construct's indicators (Chin, 1998). With that out of the way, the tested model does not suffer from convergent validity issues.

The findings of the discriminant validity test, which used the Fornell-Larcker approach (Fornell & Larcker, 1981), are shown in Table 5. This method compares the square root of each construct's AVE (Average Variance Extracted) with the correlation between that construct and other aspects in the model.

Table 5. AVE root value and correlation between Latent Variables

	Awardnes s (X1)	Consumptio n Value (X2)	Eco Label (X3)	Intention to Buy Green Product (Y)
<i>Awardness (X1)</i>	0,851			
<i>Consumption Value (X2)</i>	-0,182	0,755		
<i>Eco Label (X3)</i>	-0,151	0,574	0,808	
<i>Intention to Buy Green Product (Y)</i>	-0,371	0,444	0,786	0,813

Source: Research Results

Table 5 presents the results of testing discriminant validity using the Fornell-Larcker method, that construct and the other constructs in (Fornell, C., & Larcker, 2016; Fornell & Larcker, 1981). The numbers outside the main diagonal in Table 5 represent the correlations between the constructs, whereas the values on the main diagonal (in bold) represent the square root of each construct's AVE. If the square root of each construct's AVE is higher than its correlation with other constructs, then discriminant validity is fulfilled (Hair Jr. et al., 2017). When comparing the AVE square root values (e.g., 0.851 for Awareness) to the correlations (e.g., -0.182 between Awareness and Consumption Value), the test results reveal that all of the AVE values are higher.

The research findings indicate that not all factors influencing product purchase decisions have the same impact. Only awareness and consumption value have a significant influence on purchase intentions. The study also found that Generation Z consumers in Malang are not influenced by eco-labels when deciding to purchase products. Although they are aware of the importance of environmental conservation, the factor that matters most to them is understanding the value and benefits of eco-friendly products

CONCLUSION

The research findings show that not all independent variables have a simultaneous influence on the propensity to buy products. It was found that generation Z consumers in Malang stated that eco-labels have no effect on their interest in buying products, even though they are aware of the importance of protecting the environment. What is crucial for Generation Z consumers is to understand the value of using and purchasing environmentally friendly products. They also need information on the positive benefits of using green or environmentally friendly products. Companies should immediately utilise eco-friendly advertising, as it shows that green advertising can raise awareness and influence Generation Z's interest in purchasing environmentally friendly products. This study has some limitations. Therefore, future research should consider using different samples, such as financially established consumers, women, and from the millennial generation.

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