

GEN Z's GREEN BEHAVIOR: HOW REAL IS IT?

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Abstract

This study is a quantitative study consisting of 96 respondents taken from Gen Z using purposive random sampling via Microsoft Form. The study was conducted in the Pekalongan area with the aim of determining the purchasing interest in green products, namely electric motorcycles. Respondent data was tested using the Partial Least Square Structural Equation Modeling (PLS-SEM) technique with the help of the Smart PLS 4 application. The results showed that green price and green lifestyle influence green knowledge and green purchase intention. In addition, green knowledge also acts as a mediator in this relationship.

Kata kunci: *Green product; Green price; Green knowledge; Green purchase intention*

INTRODUCTION

Global warming is a condition in which the average temperature on the Earth's surface deviates from normal temperatures, and this occurs over a long period of time. This increase in temperature also causes changes in weather patterns, such as unpredictable seasons, extreme rainfall, prolonged droughts, and melting polar ice caps. This phenomenon has become a hot global issue discussed by various countries, especially those that have directly experienced the negative impacts of global warming, such as more frequent natural disasters, disruptions to food production, and increased risks to public health.

This increase is certainly difficult to stop simply for the sake of reducing carbon dioxide emissions from vehicles. Therefore, the solution is to replace or reduce the use of fossil fuels. This condition has encouraged companies to innovate by developing more environmentally friendly vehicles. One result of this innovation is the emergence of two types of environmentally friendly motorcycles. Electric motorcycles are currently considered the right solution to support daily mobility while preserving the environment. Unlike motor vehicles that use fossil fuels, electric motorcycles do not produce exhaust emissions that pollute the air or damage the ozone layer. The presence of this technology is a form of innovation to address increasingly urgent environmental issues. Electric motorcycles do not depend on petroleum, therefore they are considered more environmentally friendly. In addition, the cost of charging them is more affordable than purchasing fuel, and the maintenance process is more practical and economical. With these advantages, electric motorcycles are expected to be a strategic step in

reducing air pollution and overcoming the energy crisis, which is currently a global issue (Yusuf, 2022).

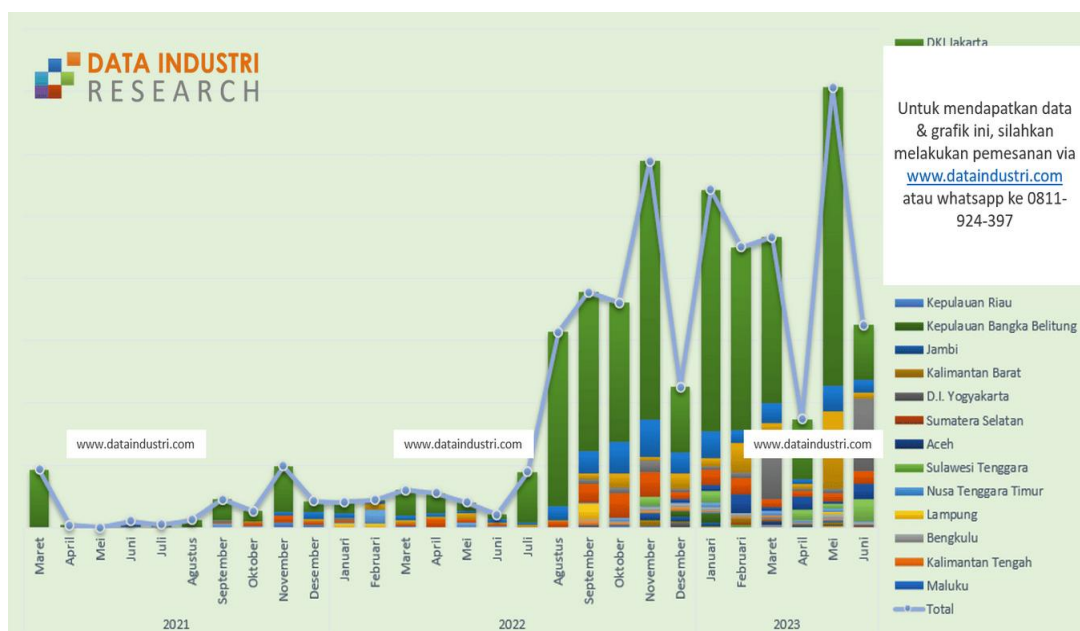


Figure 1. Electric Motorcycle Sales Data Chart 2021-2023

In addition to an environmentally friendly lifestyle (green lifestyle) and knowledge about environmentally friendly products (green knowledge), another factor that consumers consider when they are interested in purchasing environmentally friendly products (green products) is the price of environmentally friendly products (green price), which refers to the additional price charged by companies for the environmentally friendly products they offer. According to previous research by Pramesti et al. (2022), a green lifestyle has been proven to have a positive influence on consumer interest in purchasing environmentally friendly products (green purchase intention). Meanwhile, a study conducted by Saleky and Souisa (2019) shows that the direct influence of green knowledge on environmentally friendly purchase interest is stronger than its indirect influence through an environmentally friendly lifestyle (green lifestyle). In addition, the results of research by Putri and Hayu (2023) also reveal that consumer understanding of environmentally friendly products (green knowledge) has a significant and positive influence on the interest in purchasing these products (green purchase intention). Research conducted by Ryantari and Giantari (2020) states that green knowledge has a positive effect on purchasing interest. Ginting & Ekawati (2016) stated that green knowledge has a positive and significant effect on the interest in purchasing environmentally friendly detergent products of the "Attact" brand in Denpasar City. Suki (2016) stated that if consumers have good green knowledge, they tend to show an interest in purchasing environmentally friendly products (green products).

Chauhan & Bhagat (2017) in their research explain that green knowledge plays an important role in a person's interest in purchasing green products. However, the results of the research were different from those reported by Silvaraj (2023), who stated that green knowledge does not have a significant or positive effect on the intention to purchase environmentally friendly products (Green purchase intention). Research

conducted by Arif, Ilham Helmi (2024) shows that green price has a positive effect on the intention to purchase environmentally friendly products (green purchase intention). The results of research conducted by Y. I. Simanjuntak et al (2025) show that green knowledge and green products have a positive effect on green purchase intention, while green price has no effect on green purchase intention. Given the differences in these research results, the researchers aimed to investigate the influence of green lifestyle, green price, and green knowledge on green purchase intention. The results of research conducted by Pramesti et al. (2022) show that green lifestyle positively influences green purchase intention, and green knowledge positively influences green purchase intention.

Based on the description and background above, the following hypotheses can be proposed:

- H1. Green lifestyle has a positive and significant effect on green knowledge
- H2. Green price has a positive and significant effect on green knowledge.
- H3. Green knowledge has a positive and significant effect on green purchase intention.
- H4. Green lifestyle has a positive and significant effect on green purchase intention.
- H5. Green price has a positive and significant effect on green purchase intention.
- H6. Green knowledge mediates green lifestyle on green purchase intention.
- H7. Green knowledge mediates green price on green purchase intention.

RESEARCH METHOD

Research Type

This study uses a quantitative approach, which allows researchers to obtain accurate and reliable information about the cause-and-effect relationship between reliable and valid variables. This approach is carried out through a survey method as the main data collection tool.

Time and Location

This research was conducted in Pekalongan from August 1 to August 25, 2025.

Subject

Samples were taken through purposive random sampling, using the convenience sampling/accidental sampling technique. Hypothesis testing used Partial Least Square-Structural Equation Modeling (PLS-SEM). The target respondents were in line with the research concept, namely 96 respondents, who were Generation Z with an interest in purchasing green products, namely electric motorcycles.

Procedure

The unit of analysis in this study consists of respondents from Generation Z who are interested in purchasing environmentally friendly products (green purchase intention), namely electric motorcycles. Data was collected through a questionnaire using a Likert scale as a measuring tool. Each question item was formulated with answer choices based on the level of agreement, ranging from very negative to very positive, using different expressions but still with a value range of 1 to 7 likert scale.

Data Analysis Techniques

The data analysis technique in this study began with testing the instruments through validity and reliability tests. Meanwhile, to test the mediating effect, a comparison was made between the results of the direct relationship and the indirect

relationship. The analysis approach used was quantitative, applying the Partial Least Squares-Structural Equation Modeling (PLS-SEM) method to test the research hypothesis. PLS-SEM was chosen because it is capable of performing comprehensive multivariate statistical analysis, while also assessing the interrelationships between constructs in the conceptual model, both in terms of measurement and the structure of the relationships between variables (Hair et al., 2019). In the PLS-SEM approach, there are two main parts in the model being analyzed, namely the measurement model and the structural model (Hair et al., 2019). The measurement model evaluates external indicators (outer loading) which are considered valid if the value is ≥ 0.6 and the Average Variance Extracted (AVE) value is accepted if it is ≥ 0.5 (Hair et al., 2019) and to ensure data reliability, a composite reliability value is used, which is recommended to be in the range of 0.7 to 0.9 (Hair et al., 2019). This measurement model aims to assess the extent to which reflective constructs are consistent and valid, while the structural model is used to assess R^2 , f^2 , and path coefficients between variables (Hair et al., 2019). However, to identify the mediating role, a comparison is made between direct and indirect effects. If only the direct relationship is significant, then there is no mediation. If both are significant, partial mediation occurs. However, if only the indirect effect is significant, it can be concluded that full mediation occurs (Baron & Kenny, 1986).

RESULTS AND DISCUSSION

Based on the data identification conducted using the respondent data that has been received, the following can be observed, as shown in the table below:

Tabel 1. Respondent characteristics

Gender	Percentage
Male	37%
Female	63%
Total	100%
Profession	Percentage
Student	43%
Entrepreneur	26%
ASN	21%
Other	10%
Total	100%

Source : Primary data (processed)

Based on the data in Table 1, it can be explained that most respondents in this study were female students.

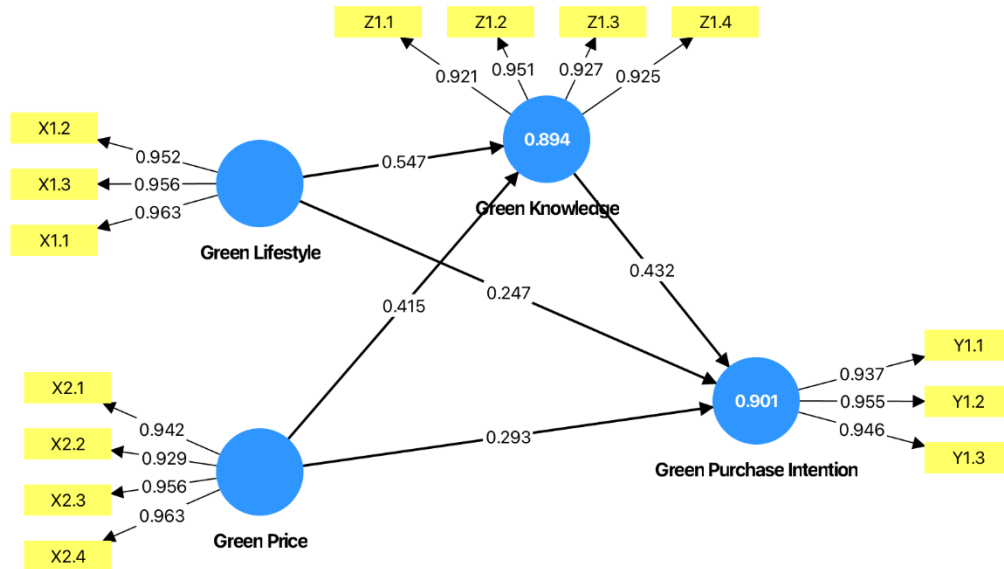


Figure 2. Outer Loading and R-Square
Source : Primary data (processed)

Based on the figure, it can be seen that all outer loading values are valid and meet the requirements for testing. In addition, the R-Square values for Green Knowledge and Green Purchase Intention are 0.894 and 0.901, respectively.

Tabel 2. CA, CR, and AVE

	CA	CR (rho_a)	AVE
Green knowledge	0.949	0.949	0.867
Green lifestyle	0.954	0.954	0.916
Green price	0.962	0.963	0.898
Green purchase intention	0.942	0.942	0.896

Source : Primary data (processed)

The criteria used in this study are that each variable is said to meet the validity requirements if it has a Cronbach's Alpha (CA) value > 0.7 Composite Reliability (CR) > 0.7 and AVE > 0.5 . Based on the data in table 2, it can be seen that all variables have met the validity requirements.

Tabel 3. Significance Test Result

	Original Sample (O)	Sample Mean (M)	Standar Deviation (STDEV)	T-Statistic (IO/STDEVI)	P-Values
Green knowledge -> Green Purchase Intention	0.432	0.436	0.100	4.306	0.000
Green lifestyle -> Green knowledge	0.547	0.551	0.099	5.541	0.000
Green lifestyle -> Green purchase intention	0.247	0.243	0.108	2.286	0.022
Green price -> Green knowledge	0.415	0.410	0.098	4.214	0.000
Green price -> Green purchase intention	0.293	0.293	0.113	2.598	0.009

Source : Primary data (processed)

Based on the data analysis in Table 3, it can be seen that all relationships between variables have positive and significant results, so that all variable relationships have an influence and affect each other.

Tabel 4. Mediation

	Original Sample (O)	Sample Mean (M)	Standar Deviation (STDEV)	T-Statistic (IO/STDEVI)	P-Values
Green lifestyle -> Green knowledge -> Green Purchase Intention	0.236	0.241	0.071	3.308	0.001
Green price -> Green knowledge -> Green Purchase Intention	0.179	0.179	0.060	3.010	0.003

Source : Primary data (processed)

Based on the data in Table 4, it can be seen that there is an indirect effect, which indicates that green knowledge mediates the relationship between green products and green lifestyles on green purchase intention.

Green lifestyle to Green knowledge

The findings indicate that green lifestyle has a positive and significant influence on green knowledge among respondents in Pekalongan, consisting of students, entrepreneurs, and government employees. This relationship suggests that the more individuals apply environmentally friendly habits in their daily lives, the higher their understanding of sustainability issues becomes. In the context of Gen Z's interest in purchasing electric motorcycles, increased green knowledge strengthens their awareness of the environmental benefits offered by such products. Consequently, respondents who exhibit a stronger green lifestyle tend to show a higher level of information literacy related to eco-friendly transportation. Overall, the study highlights the importance of

fostering sustainable lifestyles to enhance green knowledge as a key driver of green purchase intention for electric motorcycles in the Gen Z segment.

Green price to Green knowledge

The results of this study indicate that green price has a positive and significant effect on green knowledge among respondents in Pekalongan. This finding shows that the more affordable and transparent the pricing of eco-friendly products such as electric motorcycles is, the more knowledgeable Gen Z consumers become about environmental benefits. Respondents consisting of students, entrepreneurs, and civil servants demonstrated a similar pattern in perceiving price as a key driver for understanding green values. This suggests that pricing strategies can effectively enhance awareness and knowledge regarding sustainable mobility solutions. Therefore, marketers and policymakers should emphasize competitive pricing to strengthen purchase interest in electric motorcycles among Gen Z consumers in Pekalongan.

Green knowledge to Green purchase intention

The results of this study indicate that green knowledge has a positive and significant effect on green purchase intention toward electric motorcycles among Gen Z in Pekalongan. Respondents consisting of university students, entrepreneurs, and government employees show that higher environmental understanding leads to stronger willingness to consider eco-friendly vehicle alternatives. This finding implies that knowledge about environmental benefits plays an important role in shaping purchase decisions, particularly in the context of sustainable transportation. Moreover, increased awareness regarding government regulations and long-term cost efficiency further strengthens Gen Z's intention to choose electric motorcycles. Overall, enhancing green knowledge through education and marketing communication can effectively drive the adoption of electric motorcycles in Pekalongan.

Green lifestyle to Green purchase intention

The findings of this study indicate that green lifestyle has a positive and significant influence on green purchase intention among Gen Z consumers in Pekalongan. Respondents consisting of students, entrepreneurs, and government employees demonstrate a growing environmental awareness that encourages them to consider electric motorcycles as a sustainable mobility option. The stronger their adherence to environmentally friendly habits, the higher their intention to purchase electric motorcycles. This relationship highlights the role of personal ecological values in shaping purchasing behavior within the transportation sector. Therefore, promoting green lifestyle initiatives may serve as an effective strategy to enhance green purchase intention among Gen Z in Pekalongan.

Green price to Green purchase intention

Based on the results of this study, green price has a positive and significant influence on green purchase intention in the context of Gen Z's interest in electric motorcycles. Respondents consisting of university students, entrepreneurs, and government employees in Pekalongan indicated that affordable and environmentally friendly pricing encourages higher intention to purchase electric motorcycles. These findings demonstrate that when green products are perceived as offering value for money, consumers are more motivated to engage in sustainable consumption. The study highlights that price sensitivity among Gen Z can be leveraged through effective green

pricing strategies. Therefore, policymakers and manufacturers should emphasize competitive pricing to accelerate the adoption of electric motorcycles in Pekalongan.

The role mediation of Green knowledge

The results indicate that green lifestyle and green price have a significant positive effect on Gen Z's green purchase intention, particularly in the context of electric motorcycle adoption in Pekalongan. Green knowledge was found to partially mediate these relationships, meaning that individuals with stronger environmental knowledge tend to better translate their eco-friendly lifestyle and price considerations into a higher intention to purchase electric motorcycles. Respondents consisting of students, entrepreneurs, and government employees demonstrated varying levels of green awareness, but all groups showed increasing interest in sustainable mobility solutions. The partial mediation suggests that while green knowledge strengthens the influence of lifestyle and price, these factors are still capable of directly influencing intention even without high environmental understanding. Overall, this study reinforces the importance of enhancing green knowledge campaigns to accelerate Gen Z's shift toward electric vehicle consumption in urban areas like Pekalongan.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study concludes that both green lifestyle and green price have a positive and significant impact on green knowledge and green purchase intention toward electric motorcycles among Gen Z in Pekalongan. Respondents who practice environmentally friendly habits and perceive green products as affordable are more knowledgeable about sustainability issues and more willing to adopt eco-friendly transportation. Green knowledge also plays a crucial role, as higher environmental understanding strengthens Gen Z's intention to purchase electric motorcycles. The partial mediation effect indicates that green knowledge enhances the influence of lifestyle and pricing factors but does not entirely replace their direct impact on purchase intention. Overall, promoting sustainability awareness, affordability, and eco-friendly behavior is essential to increasing electric motorcycle adoption in Pekalongan.

Recommendations

Manufacturers, marketers, and policymakers should intensify educational and promotional campaigns to improve green knowledge among Gen Z consumers. Competitive and transparent pricing strategies must be prioritized to make electric motorcycles more attractive and accessible. Future research should expand to different regions and incorporate actual purchase behavior to better understand sustainable mobility adoption patterns.

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