

The Influence of Green Awareness, Green Lifestyle, and Green Product Knowledge on Green Purchase Intention of Electric Motorcycles in the Special Capital Region of Jakarta

Ranti Purwanti^{1*}, Ali Hanafiah²

Faculty of Economics and Business, Mercu Buana

Corresponding Author: Ranti Purwanti rantipurwanti1004@gmail.com

ARTICLE INFO

Keywords: Green Awareness, Green Lifestyle, Green Product Knowledge, Green Purchase Intention

Received: 7, October

Revised: 26, October

Accepted: 28, November

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ABSTRACT

The increasing global environmental issues and the importance of transitioning towards sustainable consumption and lifestyles. This study aims to analyze the influence of Green Awareness, Green Lifestyle, and Green Product Knowledge on Green Purchase Intention for environmentally friendly products, specifically electric motorcycles, in the Special Capital Region (DKI) of Jakarta. The method employed is quantitative with a Structural Equation Modeling Partial Least Square (SEM-PLS) approach. The sampling technique used is purposive sampling, respondents from DKI Jakarta who have the intention to purchase electric motorcycles. The results indicate that Green Awareness, Green Lifestyle, and Green Product Knowledge have a positive and significant effect on Green Purchase Intention. The study concludes that enhancing environmental awareness, adopting a green lifestyle, and increasing knowledge about environmentally friendly products play a crucial role in encouraging consumers' purchase intentions toward electric motorcycles.

INTRODUCTION

The issue of sustainable business has become a global concern. Sustainable business practices are carried out to support sustainable development, which impacts various global aspects. Researchers state that in the business sector, attention to environmental, social, and ethical issues is increasingly important (Santoso, 2022). This increase is in line with the Sustainable Development Goals (SDGs) program initiated by the United Nations Department of Economic and Social Affairs. The program consists of 17 goals to be achieved, such as eradicating poverty, ending hunger, ensuring good health, providing quality education, achieving gender equality, ensuring access to clean water, affordable and clean energy, decent work, economic growth, industrial infrastructure, reducing inequality, creating sustainable cities and communities, promoting responsible consumption and production, addressing climate change, preserving marine and terrestrial ecosystems, fostering peace, and strengthening partnerships.

The issue of climate change is becoming an increasing concern in Indonesia. Climate change occurs as a result of global warming, one of its main drivers being greenhouse gas emissions. If society does not understand the importance of protecting the environment and utilizing renewable energy sources, the impacts of climate change will be difficult to avoid. This is also in line with one of the SDGs, namely Goal 7, which emphasizes the use of clean and affordable energy.

Specifically, selecting Jakarta as the research location is highly relevant in this context. Jakarta is the region with the highest level of air pollution in Indonesia, and one of the cities with the most significant contribution to carbon emissions. According to the report by Hanafiah et al. (2024), the air quality in Jakarta is categorized as “unhealthy,” while data from Hasanah (2023) indicate that the total carbon emissions of Jakarta reached 10,386.001 ktCO₂. This makes Jakarta an epicenter of the urban environmental crisis that needs to be addressed as a priority.

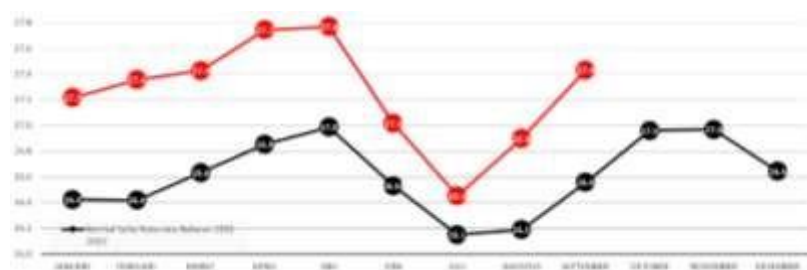


Figure 1. Comparison Chart of Indonesia's Average Monthly Temperatures from 1991 to 2020 and Indonesia's Average Monthly Temperatures Until September 2024

Based on data from the Meteorology, Climatology, and Geophysics Agency (BMKG) in 2024 regarding air temperature anomalies in September 2024, analysis from 63 BMKG observation stations showed that the average air temperature in

September 2024 was 27.4°C. Meanwhile, the normal average air temperature in September during the period 1991–2020 in Indonesia was

26.56°C. Based on this comparison, it was determined that there was a temperature anomaly of 0.87°C. The anomaly in September 2024 represents the highest anomaly ever recorded since the observation period began in 1981 (BMKG, 2024). Furthermore, according to data from the Central Bureau of Statistics (BPS), the average air temperature in West Jakarta, taken as a secondary data sample, reached 29.4°C in September 2023. This indicates that the average temperature in West Jakarta during September 2023 exceeded the national average temperature in Indonesia.

This condition has become a critical concern for both the government and Indonesian society to protect the earth by contributing to the reduction of carbon emissions. According to Irma (2024), the rising global temperature is influenced by carbon emissions and greenhouse gases.

Table 1. Motor Vehicle Population 2021-2022

Types of Motor Vehicles	Development of the Number of Motor Vehicles by Type (Units)	
	2021	2022
Passenger Cars	16.413.348	17.168.862
Buses	237.566	243.45
Freight Vehicles Trucks	5.299.361	5.544.173
Motorcycles	120.042.298	125.305.332
Amount	141.992.573	148.261.817

Based on Table 1, data from bps.go.id show that the population of electric motorcycles ranks first compared to other vehicles, with a total of 120 million units. For illustration, 1 liter of fossil fuel (BBM) is equivalent to 1.2 kilowatt hours (kWh) of electricity. Carbon emissions from 1 liter of fossil fuel amount to 2.4 kilograms (kg) CO₂e, while emissions from 1.2 kWh of electricity are only 1.02 kg CO₂e (Darmawan, 2023). In line with these findings, Sudjoko (2021) emphasizes that the sustainable use of electric vehicles is a strategic step in reducing carbon emissions.

With the growing population of electric vehicles and their benefits in reducing emissions, residents of Indonesia particularly in the Special Capital Region of Jakarta, which records total emissions of 10,386.001 ktCO₂ (Hasanah, 2023) are facing urgent environmental challenges. Jakarta has been identified as one of the cities with “unhealthy” air quality (Hanafiah et al., 2024). Therefore, the utilization of electric vehicles is crucial as a sustainable solution to reduce carbon gas emissions. The transition from fossil fuels to electricity in twowheeled vehicles can serve as an effective effort to support environmental sustainability and reduce the city’s carbon footprint, in line with recommended long-term strategies.

LITERATURE REVIEW

The Sustainable Development Goals (SDGs) are a set of 17 goals established by the United Nations (UN) as a blueprint for achieving a better and more

sustainable future for all. The SDGs were adopted in 2015 as part of the 2030 Agenda for Sustainable Development. They are designed to address a wide range of global challenges, including poverty, inequality, climate change, environmental degradation, peace, and justice. Each of the SDGs has specific targets that must be achieved within a defined timeframe (Undiknas, 2024).

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) was developed by social psychologist Icek Ajzen as an important framework to understand the relationship between attitudes and behavior. It explains how a particular attitude is likely to manifest as behavior through what Ajzen termed the "Theory of Planned Behavior." The TPB was first introduced by Ajzen in 1985 in his article "*From Intentions to Actions: A Theory of Planned Behavior*." This theory is grounded in various attitude-related theories such as learning theory, expectancy-value theory, consistency theories, and attribution theory (Sun, 2020). The Theory of Planned Behavior was further refined by Icek Ajzen in 1991. It is widely used to analyze the factors influencing an individual's intention to perform a behavior, ultimately explaining how such behavior is formed. According to this theory, the primary factor that predicts behavior is the intention to perform it.

The Concept of Triple Bottom Line

The Triple Bottom Line (TBL), which encompasses three key pillars People, Planet, and Profit was introduced by Elkington (1997), as cited by Carrie (2019). The TBL approach provides guidance for companies toward sustainability by focusing on three main pillars: environmental quality, social equity, and economic benefits (Fatwa, 2022).

The TBL model and sustainability are often illustrated using the nested spheres model or a Venn diagram. The intersection of these three elements symbolizes sustainability. However, this model is not entirely effective in representing the hierarchical relationship among the elements. Within this context, Fatwan (2022) emphasizes the importance of harmonizing business activities with the broader social and environmental framework.

Green Awareness

In the context of this research, environmental awareness is a form of consumer awareness of the importance of protecting the environment, which is linked to the consumer purchasing process. Environmental awareness is defined as a form of consumer awareness that purchasing an environmentally friendly product will make a positive contribution to the environment (Sarasuni, 2021). Consumers who are aware of green marketing encompass all brand marketing activities carried out by a company, including the promotion of all activities related to the creation of those products and services.

Apriliani et al., (2021) research found that green awareness had a positive and significant effect on green purchase intention. Furthermore, Adelina & Hutabarat (2023) explained in her research that green awareness had a positive and significant effect on green purchase intention.

H1: Green Awareness has a positive and significant effect on Green Purchase Intention.

Green Lifestyle

A green lifestyle refers to all actions taken by individuals to contribute to preserving the environment around them by reducing the consumption of goods that may have adverse effects on nature (Pramesti et al., 2022). By adopting a lifestyle that focuses on reducing the negative impact of one's daily life on environmental degradation—whether existing or potential consumers are more likely to be influenced to purchase environmentally friendly products (Patak et al., 2021).

A green lifestyle can be described as a way of living that involves minimizing or eliminating the negative impact of human behavior on the environment through the use of renewable energy sources and the purchase of green items (Chwialkowska, 2019). Another example of practicing a green lifestyle in everyday life is that it is often instilled within families from an early age, making the first experience of using green items highly influential on one's future green purchase intention (Chwialkowska, 2019). According to her, several factors influence a person's lifestyle, starting from the individual themselves, product attributes, and extending to the marketing strategies applied. Based on research by Cahyaningrum et al. (2022), a green lifestyle has a positive and significant effect on green purchasing intentions. Furthermore, Nurdin et al. (2024) explained that a green lifestyle has a positive and significant effect on green purchasing intentions.

H2: Green Lifestyle has a positive and significant effect on Green Purchase Intention.

Green Product Knowledge

Green Product Knowledge is a person's knowledge, which will impact how they choose certain environmentally friendly products. Generally, item information is displayed in the environmentally friendly information listed on product packaging (Pramesti et al., 2022). According to Wang et al. (2019), Green Product Knowledge refers to consumers' knowledge regarding the environmental conditions and impacts of green items. If consumers have insufficient knowledge about green items, they will experience a gap between their attitudes and behavior when purchasing a product. Green Product Knowledge is the beginning of the purchasing decision process, where consumers will seek information related to the product stored in their memory. This information search is triggered by consumers' concern for environmental sustainability and beauty (Wulandari & Miswanto, 2022).

Based on research by Ramadhani et al., (2023), Green Product Knowledge is categorized as good and has a positive and significant effect, thus increasing Green Purchase Intention. Furthermore, Cahyaningrum et al., (2022) explained in their research that Green Product Knowledge has a positive and significant effect on Green Purchase Intention.

H3: Green Product Knowledge has a positive and significant effect on Green Purchase Intention.

Based on the description above, the research framework proposed in this study is described as follows:

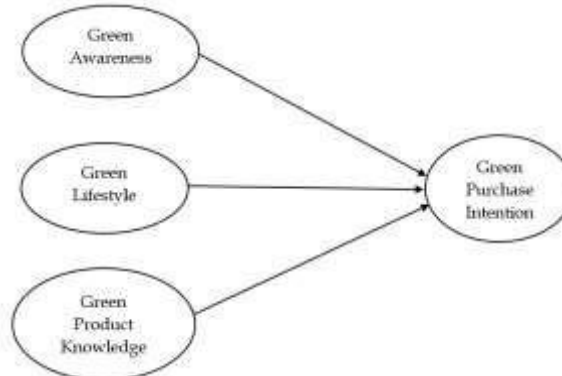


Figure 2. Research Framework

METHODOLOGY

The research was conducted from December 2024 to June 2025, focusing on respondents residing in the Special Capital Region of Jakarta who have the intention to purchase electric motorcycles. The study employs a causal research design, which, according to Rully (2017), is aimed at examining the relationship between variables, where changes in one variable may influence changes in another. The purpose of this design is to test hypotheses regarding the effect of one or more independent variables on a dependent variable. A quantitative approach was applied, which, as explained by Sekaran (2017), utilizes numerical data in the process of data collection, interpretation, and presentation of findings.

This study consists of four variables: three independent variables and one dependent variable. The independent variables include Green Awareness, Green Lifestyle, and Green Product Knowledge, while the dependent variable is Green Purchase Intention. Green Awareness refers to consumer awareness of the importance of environmental protection, with indicators such as product availability, perceived benefits, features, and product identification (Sarasuni, 2021; Apriliani, 2021). Green Lifestyle relates to consumer behavioral patterns that reflect environmentally conscious living, such as influencing others, contributing to environmental preservation, limiting resource consumption, and feeling proud of active involvement in sustainability (Pramesti et al., 2022). Green Product Knowledge represents an individual's understanding of ecofriendly products, including label information, certification, environmental impacts, and visible changes to the environment (Setyabudi et al., 2020). Meanwhile, Green Purchase Intention reflects a consumer's willingness to choose, buy, and recommend green products over conventional alternatives (Setyabudi & Adialita, 2020).

Table 2. Operational Variables

Variable	Items	Reference
Green Awareness	GA1. I believe that the industry producing electric motorcycles in Jakarta contributes to reducing air pollution. GA2. I feel that buying an electric motorbike is one way for me to participate in preserving the environment. GA3. Electric motorcycles in Jakarta are often smaller and more expensive than conventional motorcycles, but I believe the price is worth the environmental benefits they provide. GA4. I can easily distinguish environmentally friendly electric motorbikes from conventional fossil fuel-powered motorbikes.	Apriliani (2021)
Green Lifestyle	GL1. I often encourage my friends to switch to electric motorcycles as a way to protect the environment. GL2. I always try to choose electric motorcycles because I believe they are one of the best ways to contribute to environmental conservation. GL3. I choose electric motorcycles because they are more energy efficient, which helps reduce the consumption of natural resources. GL4. I feel proud every time I ride an electric motorcycle because I know I am contributing to environmental protection.	Pramesti et al., (2022)
Green Product Knowledge	GPK1. I frequently check the label information on electric motorcycles to determine whether the product is environmentally friendly. GPK2. I prefer electric motorcycles that are certified by organizations known for their commitment to sustainability and environmental protection. GPK3. I understand that electric motorcycles have a smaller environmental impact than conventional motorcycles, especially in reducing air pollution. GPK4. I believe that the widespread use of electric motorcycles in Jakarta can make a real difference in reducing air pollution and greenhouse gas emissions.	Setyabudi et al., (2020)

Green Purchase Intention	GPI1. I prefer buying an electric motorcycle over a conventional motorcycle because I care more about its environmental impact. GPI2. In the future, I plan to continue purchasing electric motorcycles as part of my commitment to environmental conservation. GPI3. I often recommend electric motorcycles to my friends as a more environmentally friendly option.	Setyabudi et al., (2020)
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RESEARCH RESULT

Table 3. Description of Respondents Based on Gender

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Comulative Percent</i>
<i>Valid</i>	Male	147	98%	98%	98%
	Female	3	2%	2%	100%
	Total	150	100%	100%	

Source: Processed Data using IBM SPSS, 2025

Based on Table 3, the results of data processing from 150 respondents, consisting of 147 males and 3 females, this study aims to provide a deeper understanding of how these factors are interrelated and contribute to Green Purchase Intention. Accordingly, the research is expected to offer valuable insights for relevant stakeholders in examining the correlation between the distribution of demographic characteristics and consumer interest as well as intention to purchase and utilize green vehicles, particularly electric motorcycles, in their daily activities.

Table 4. Description of Respondents Based on Age

	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Comulative Percent</i>
> 35 Years	16	10.7%	10.7%	10.7%
15-20 Years	10	6.7%	6.7%	17.3%
20-25 Years	77	51.3%	51.3%	68.7%
25-35 Years	47	31.3%	31.3%	100%
Total	150	100%	100%	

Source: Processed Data using IBM SPSS, 2025

Based on table 4., the results of processing respondent data in the study with a sample of 150 respondents, it can be seen that the 20–25-year age group is the dominant group in the research sample, with a percentage of 51.3% of the total with 77 respondents. Nevertheless, it is important to note that the overall sample

covers a wide range of age groups, and the comparison of percentages across these categories provides meaningful insights into the demographic characteristics of respondents in this research.

Table 5. Description of Respondents Based on Occupation

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Comulative Percent</i>
<i>Valid</i>	Employee/Staff	101	67.3%	67.3%	67.3%
	Student/University	26	17.3%	17.3%	84.7%
	Student				
	Self-employed	23	15.3%	15.3%	100%
	Total	150	100%	100%	

Source: Processed Data using IBM SPSS, 2025

Based on Table 5, the results of processing respondent data in a study with a sample of 150 respondents, it can be found that the distribution of occupational backgrounds is Employees/staff, there are 101 respondents, which represents a percentage of 67.3% of the total sample. This indicates that the majority of respondents in this study have an occupational background as employees/staff.

Convergent Validity

The assessment of convergent validity in the measurement model with reflective indicators is evaluated based on the correlation between item scores (or component scores) and construct scores calculated using PLS. An individual indicator is considered valid if it has a loading factor value greater than 0.70. However, in the early stages of scale development, loading factor values ranging from 0.50 to 0.60 are still acceptable (Hair et al., 2019). The results of the convergent validity test in this study are presented in Table [X], which illustrates the factor loadings for each indicator associated with its respective construct. These findings confirm whether the indicators used in this study adequately represent the latent variables being measured.

Table 6. Results of Convergent Validity Testing

Variable	Items	Outer Loading	Result
Green Awareness	GA1	0.790 0.800	Valid
	GA2	0.751	
	GA3	0.637	
	GA4		
Green Lifestyle	GL1	0.846 0.870	Valid
	GL2	0.675	
	GL3	0.843	
	GL4		

Green Product Knowledg	GPK1	0.811	0.780	Valid
	GPK2	0.740		
	GPK3	0.746		
	GPK4			
Green Purchase Intention	GPI1	0.853	0.807	Valid
	GPI2	0.838		
	GPI3			

Source: SmartPLS Data Processing, 2025

Based on Table 6, all indicators in each construct have a loading factor value of more than 0.60. This indicates that all indicators in this study are valid and meet the requirements.

Average Variance Extracted (AVE)

Is used to evaluate convergent validity. Within the Partial Least Square (PLS) testing framework, an AVE value of 0.50 or higher is considered acceptable. An AVE value greater than 0.50 indicates that the construct is able to explain more than half of the variance of its indicators, thereby fulfilling the requirements of convergent validity.

Table 7. Results of Average Variance Extracted (AVE) Testing

Variabel	Average Variance Extracted (AVE)	Result
Green Awareness	0.558	Valid
Green Lifestyle	0.660	Valid
Green Product Knowledge	0.593	Valid
Green Purchase Intention	0.694	Valid

Source: SmartPLS Data Processing, 2025

Based on Table 7, Green Purchase Intention has an AVE value of 0.694, which is greater than 0.50; therefore, Green Purchase Intention is considered valid. Green Awareness has an AVE value of 0.558, which is above 0.50, indicating that Green Awareness is valid. Green Lifestyle shows an AVE value of 0.660, higher than 0.50, meaning that Green Lifestyle is valid. Lastly, Green Product Knowledge records an AVE value of 0.593, which also exceeds the threshold of 0.50, confirming that Green Product Knowledge is valid.

Discriminant validity

Discriminant validity refers to the principle that the measurement items (manifest variables) of different constructs should not be highly correlated with each other. One approach to testing discriminant validity is by comparing the square root of the AVE for each construct with the correlation values between constructs in the model. Good discriminant validity is achieved when the square

root of the AVE for each construct is greater than the correlations among constructs in the model. According to Hair (2017), discriminant validity represents the extent to which a construct is truly distinct from other constructs.

Cross Loading

Cross loading refers to the correlation of an indicator with constructs other than the one it is intended to measure. A construct is considered to have good discriminant validity when each indicator has a higher loading value on its corresponding construct compared to its correlations with other constructs in the model.

Table 8. Results of Cross Loading

	Green Awareness	Green Lifestyle	Green Product Knowledge	Green Purchase Intention
GA1	0.790	0.324	0.532	0.400
GA2	0.800	0.370	0.589	0.424
GA3	0.751	0.448	0.518	0.543
GA4	0.637	0.211	0.476	0.308
GL1	0.451	0.846	0.553	0.641
GL2	0.378	0.870	0.516	0.597
GL3	0.458	0.675	0.551	0.503
GL4	0.269	0.843	0.416	0.635
GPK1	0.601	0.509	0.811	0.646
GPK2	0.477	0.489	0.780	0.514
GPK3	0.593	0.416	0.740	0.436
GPK4	0.505	0.499	0.746	0.412
GPI1	0.512	0.650	0.562	0.853
GPI2	0.515	0.568	0.594	0.807

GPI3	0.418	0.616	0.516	0.838
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Source: SmartPLS Data Processing, 2025

Based on Table 8, Green Awareness consists of four questionnaire items, each of which has a cross-loading value greater than 0.60, indicating that all items are valid. Green Lifestyle also consists of four questionnaire items with cross-loading values exceeding 0.60, confirming that all items are valid. Similarly, Green Product Knowledge has four questionnaire items with crossloading values above 0.60, which validates all items. Lastly, Green Purchase Intention comprises three questionnaire items, each with cross-loading values greater than 0.60, thereby confirming that all items are valid. These results demonstrate that all constructs meet the requirements of discriminant validity as assessed through the cross-loading criterion.

Table 9. Hypothesis Testing Results

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values	Significant	Result
Green Awareness - Green Purchase Intention	0.177	0.185	0.071	2.498	0.013	Positive and Significant	Hypothesis 1 Accepted
Green Lifestyle- Green Purchase Intention	0.509	0.516	0.073	6.965	0.000	Positive and Significant	Hypothesis 2 Accepted
Green Product Knowledge - Green Purchase Intention	0.228	0.220	0.097	2.340	0.019	Positive and Significant	Hypothesis 3 Accepted

Source: SmartPLS Data Processing, 2025

Based on the results of the hypothesis test in Table 9, Green Awareness has a positive and significant influence on Green Purchase Intention. The original sample value is 0.177, the t-statistic value is 2.498, and the p-value is 0.013. Green Lifestyle has a positive and significant influence on Green Purchase Intention. The original sample value is 0.509, the t-statistic value is 6.965, and the p-value is 0.000. and Green Product Knowledge has a positive and significant influence on Green Purchase Intention with the original sample value is 0.228, the t-statistic value is 2.340, and the p-value is 0.019.

DISCUSSION

The Influence of Green Awareness on Green Purchase Intention

Based on the hypothesis test, Green Awareness has a positive and significant influence on Green Purchase Intention, which is related to the intention to purchase electric motorcycles among residents of the Special Region of Jakarta. This indicates that the higher the level of environmental awareness, the higher the purchasing decision. These results are supported by previous

research conducted by Apriliani et al. (2021), who found that green awareness has a positive and significant influence on green purchase intentions. Adelina & Hutabarat (2023) explained in her research that green awareness has a positive and significant influence on green purchase intentions.

In the context of this research, the contributing dimensions used are Environmental Awareness of Consequences, Environmental Concern & Responsibility, and Eco-centric Values. Furthermore, Green Awareness is reflected in four questionnaire items from the overall indicators, such as the use of environmentally friendly materials (GA1) with an outer loading value of 0.790, supporting environmental conservation (GA2) with an outer loading value of 0.800, and the perception of product prices in relation to environmental impact (GA3) with an outer loading value of 0.751. In addition, the knowledge to distinguish between conventional and green products (GA4) with an outer loading value of 0.637.

One of the questionnaire statements that strongly reflects high Green Awareness is the item "purchasing environmentally friendly products as a way of contributing to environmental conservation (GA2)" with an outer loading value of 0.800. This result shows that people perceive buying electric motorcycles as one of the ways to participate in preserving the environment.

The Influence of Green Lifestyle on Green Purchase Intention

Based on the hypothesis test, Green Lifestyle has a positive and significant influence on Green Purchase Intention, specifically the intention to purchase electric motorcycles among residents of the Special Region of Jakarta. The higher the awareness of using green products in daily life, the higher and stronger the intention to purchase environmentally friendly products (electric motorcycles). These results are supported by previous research conducted by Cahyaningrum et al. (2022), which found that an eco-friendly lifestyle has a positive and significant effect on eco-friendly purchasing intentions. Furthermore, Nurdin et al. (2024) explained that an eco-friendly lifestyle has a positive and significant effect on eco-friendly purchasing intentions.

In the context of this research, the contributing indicators used were Lifestyle, Motivation, and Social Interaction. Within these three dimensions, there are four indicators and statement items whose outer loading values have been examined. Concern for environmental issues in social interaction (GL1) has an outer loading of 0.846. Awareness of contributing to environmental preservation (GL2) has an outer loading of 0.870. Limiting non-renewable energy consumption (GL3) has an outer loading of 0.675. Active participation in environmental protection (GL4) has an outer loading of 0.843.

One questionnaire statement that reflects a high level of environmentally friendly lifestyle is the item "I strive to choose electric motorcycles because it is one of the best ways to contribute to environmental preservation (GL2)," with an outer loading of 0.870. This is because people are already aware that electric vehicles are the best way to reduce carbon emissions and contribute to environmental preservation.

The Influence of Green Product Knowledge on Green Purchase Intention

Based on the hypothesis testing, it was found that Green Product Knowledge has a positive and significant influence on purchase intention. This means that the level of green product knowledge positively affects and is related to consumer purchase intentions toward environmentally friendly products. The findings prove that the higher consumers' knowledge about green products including their benefits, energy efficiency, technological advantages, and environmental impacts the stronger their purchase intention for such products. These results are supported by previous research conducted by Amadhani et al. (2023), which found that Green Product Knowledge was categorized as good and had a positive and significant influence, thereby increasing Green Purchase Intention. Furthermore, research by Cahyaningrum et al. (2022) explained that Green Product Knowledge had a positive and significant influence on Green Purchase Intention.

In this study, the contributing indicators are product knowledge, usage knowledge, and post-use knowledge. These are further reflected in four questionnaire items: understanding product label information (GPK1) with an outer loading value of 0.811; understanding product certification and eligibility (GPK2) with an outer loading value of 0.780; understanding environmental impact (GPK3) with an outer loading value of 0.740; and knowledge of concrete environmental impacts (GPK4) with an outer loading value of 0.746.

Green product knowledge plays an important role in shaping consumer perceptions about the benefits of eco-friendly products. When consumers realize that a product—such as an electric motorcycle—not only functions well but also help protect the environment, they are more likely to choose it. For instance, if consumers know that electric motorcycles are fuel-efficient, emit minimal emissions, come with tax incentives, and are easy to maintain, their confidence to purchase will increase. Moreover, clear and accessible information about the technological advantages of electric motorcycles compared to conventional vehicles further strengthens purchase intentions.

CONCLUSIONS AND RECOMMENDATIONS

Based on the formulation of the research problems, the following conclusions can be drawn: There is a positive and significant relationship between Green Awareness and Green Purchase Intention for electric motorcycles, indicating that the higher the level of environmental awareness, the stronger the consumer's purchasing decision. Similarly, Green Lifestyle has a positive and significant influence on Green Purchase Intention, meaning that individuals with a stronger environmentally friendly lifestyle tend to demonstrate higher purchase intentions toward electric motorcycles. In addition, Green Product Knowledge has a positive and significant effect on Green Purchase Intention, showing that the greater the level of consumer knowledge regarding green products, the stronger their purchasing decisions. Furthermore, the R-square value of 63% demonstrates a strong influence of Green Awareness, Green Lifestyle, and Green Product Knowledge on Green Purchase Intention.

ADVANCED RESEARCH

Every study has its limitations, and this research is no exception. The first limitation lies in the sample distribution, which was dominated by male respondents, thereby limiting the diversity of perspectives across genders. Second, the study focused only on consumers within a certain age range, particularly those between 20–25 years old, which may not fully capture the purchase intention of broader age groups. Third, the constructs measured in this study were limited to Green Awareness, Green Lifestyle, and Green Product Knowledge, whereas other potential factors such as price perception, government policy, and brand trust were not included.

For future research, it is recommended to expand the sample size to achieve a more balanced demographic distribution in terms of gender, age, and occupational background. Researchers may also include additional variables such as environmental concern, perceived price fairness, or government incentives to gain a more comprehensive understanding of consumer behavior. Moreover, comparative studies across different regions or countries could provide valuable insights into cultural influences on Green Purchase Intention, particularly toward electric motorcycles and other eco-friendly transportation products.

ACKNOWLEDGMENT

The author would like to express sincere gratitude to colleagues and peers who provided valuable suggestions, constructive feedback, and encouragement throughout the development of this research. Special appreciation is also extended to the academic advisors and reviewers for their insightful guidance, which significantly improved the quality of this paper. Finally, the author gratefully acknowledges the financial assistance and support received from all parties that contributed to the successful completion of this study.

REFERENCES

- Adelina, C., & Hutabarat, Z. (2023). The influence of green brand image, green awareness, green advertising, and ecological knowledge on green purchase intention and green purchase behaviour of beer Bintang and Heineken products in DKI Jakarta. *Enrichment: Journal of Management*, 13(5), 2750–2758.
- Amalia, Q. N. (2023). Pengaruh pesan iklan hijau “Garnier Berkomitmen Menuju Green Beauty” di Instagram terhadap brand image Garnier dengan pengetahuan lingkungan sebagai variabel intervening (Doctoral dissertation, Universitas Gadjah Mada).
- Badan Meteorologi, Klimatologi, dan Geofisika. (2024). Anomali suhu udara rata-rata bulan September 2023. Diakses 12 Oktober 2024 dari <https://www.bmkg.go.id/iklim/?p=ekstrem-perubahan-iklim>
- Badan Pusat Statistik. (2024). Perkembangan jumlah kendaraan bermotor menurut jenis (unit), 2021–2022. Diakses 12 Oktober 2024 dari

- <https://www.bps.go.id/id/statisticstable/2/NTcjMg==/perkembangan-jumlah-kendaraan-bermotor-menurut-jenis.html>
- Chwialkowska, A. (2019). How sustainability influencers drive green lifestyle adoption on social media: The process of green lifestyle adoption. *Management of Sustainable Development*, 11(1), 33–43.
- Darmawan. (2023). Kendaraan listrik jadi upaya penurunan emisi karbon, begini perhitungan emisinya menurut PLN. PLN. Diakses 12 Oktober 2024 dari <https://web.pln.co.id/media/siaranpers/2023/02/kendaraan-listrik-jadi-upaya-penurunan-emisi-karbon-begini-perhitungan-emisinya-menurut-pln>
- Hair, J. F., et al. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications.
- Hanafiah, et al. (2024). Exploring the role of green advertising in shaping Generation Z's purchase intentions for GESITS electric motorbikes: A TPB perspective in JABODETABEK area. *International Journal of Integrative Sciences (IJIS)*.
- Haryono, S. (2017). *Metode SEM untuk penelitian manajemen*. PT Luxima Metro Media.
- Haryono, S. (2017). *Metode SEM untuk penelitian manajemen dengan AMOS LISREL PLS*. Luxima Metro Media.
- Indrawan, R., et al. (2017). *Metodologi penelitian*. PT Refika Aditama.
- Irma, M. F., & Gusmira, E. (2024). Tingginya kenaikan suhu akibat peningkatan emisi gas rumah kaca di Indonesia. *JSSIT: Jurnal Sains dan Sains Terapan*, 2(1).
- Lathifah, R. (2020). *Hubungan antara kesadaran lingkungan dan nilai personal dengan perilaku membuang sampah sembarangan pada masyarakat Kecamatan Tampan Kota Pekanbaru* (Doctoral dissertation, Universitas Islam Negeri Sultan Syarif Kasim Riau).
- Noor, J. (2017). *Metodologi penelitian: Skripsi, tesis, disertasi, dan karya ilmiah*. Kencana.
- Nuridin, A. S., & Ratnasari, I. (2024). Pengaruh green lifestyle, green product knowledge dan green advertising terhadap green purchase intention motor listrik merek Volta pada masyarakat di Kabupaten Karawang. *Innovative: Journal of Social Science Research*, 4(4), 11407–11418.
- Ottman, J. (2017). *The new rules of green marketing: Strategies, tools, and inspiration for sustainable branding*. Routledge.
- Patak, M., Branska, L., & Pecinova, Z. (2021). Consumer intention to purchase green consumer chemicals. *Sustainability*, 13(14). <https://doi.org/10.3390/su13147992>
- Pramesti, P., Cahyaningrum, Y. A. D., & Rahayu, F. (2022). Konsekuensi dari green lifestyle, product knowledge, dan community. *Jurnal Ekonomi Trisakti*, 2(2), 555–566.

- Pusparisa, Y. (2020, July 30). Proyeksi jumlah kendaraan listrik di Indonesia hingga 2030. Databoks. <https://databoks.katadata.co.id/>
- Ramadhani, P. (2023). Pengaruh green awareness terhadap green purchase intention yang dimoderasi oleh corporate image pada konsumen Filosofi Kopi Sleman (Doctoral dissertation, UPN Veteran Yogyakarta).
- Ridwan, L. M., Solihat, A., & Trijumansyah, A. (2018). Pengaruh product knowledge dan brand association terhadap purchase intention kawasan kampung kreatif Dago Pojok. *Jurnal Pariwisata*, 5(1), 68–82.
- Santoso, M. B., & Raharjo, S. T. (2022). Diskursus corporate social responsibility (CSR) dalam mewujudkan sustainable development goals (SDGs). *Share: Social Work Journal*.
- Sarasuni, F. (2021). Pengaruh kesadaran lingkungan dan persepsi nilai terhadap keputusan pembelian. *Jurnal Manajemen*, 13(2).
- Sekaran, U., et al. (2017). Metode penelitian untuk bisnis: Pendekatan pengembangan keahlian (Edisi 6 Buku 1). Salemba Empat.
- Septiana, R. (2023). Pengaruh green product knowledge, green trust, dan green perceived value terhadap green purchase intention produk detergen Rinso (Undergraduate thesis, Universitas Bakrie).
- Setyabudi, W. A., & Adialita, T. (2020). Pengaruh green product knowledge, green trust dan perceived price terhadap green purchase intention konsumen AMDK merek Aqua dengan botol 100% recycled. *Jurnal Administrasi Bisnis*, 16(2), 174–184. <https://doi.org/10.26593/jab.v16i2.4261.174-184>
- Sudjoko, C. (2021). Strategi pemanfaatan kendaraan listrik berkelanjutan sebagai solusi untuk mengurangi emisi karbon. *Jurnal Paradigma*, 2(2).
- Sugiarti, R., Hartanti, N. D., Setyarini, E., & Agustin, S. K. (2023). The influence of green marketing, product knowledge, and influencers on purchase intention. *International Journal on Social Science, Economics and Art*, 13(3), 202–207.
- Suprihartini, L., Herdiansyah, D., & Fahrizal, M. (2022). The effects of green product knowledge, perceived price and government policy on green purchase intention in buying hybrid motor vehicles. *Enrichment: Journal of Management*, 12(5), 3730–3736.
- Tampubolon, N. K. T. (2021). Analisis hubungan green product knowledge, green awareness dan green lifestyle dengan niat beli produk ramah lingkungan (Doctoral dissertation, Universitas Sumatera Utara).
- Wang, et al. (2019). How does green product knowledge effectively promote green purchase intention? *MDPI-Journal*.
- 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, 102572.

- Wulandari, R., & Miswanto, M. (2022). Faktor-faktor yang mempengaruhi keputusan pembelian green product. *EKUITAS: Jurnal Ekonomi dan Keuangan*, 6(2), 224–242.
- Yaputra, H., Kurniawati, K., Risqiani, R., Lukito, N., & Sukarno, K. P. (2024). The effect of green marketing, sustainable advertising, eco packaging/labeling towards green purchasing behavior (study on electric vehicles in Indonesia). In *International Conference on Entrepreneurship, Leadership and Business Innovation (ICELBI 2022)* (pp. 319–330). Atlantis Press.
- Yusiana, R., Widodo, A., & Hidayat, A. M. (2020). Green brand effects on green purchase intention (Life Restaurant Never Ended). *DIJMS*, 2(1), 112–124. <https://doi.org/10.31933/DIJMS>