

Mediating role of attitude in green purchase intention for solar power plants: A green marketing analysis

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Abstract

Purpose: The principal objective of this study is to identify the factors that might influence the inclination towards eco-friendly purchases while considering the incorporation of renewable energy via Solar Power Generation Systems (PLTS).

Research Methodology: A comprehensive data analysis was conducted using a Structural Equation Model (SEM) facilitated by the SMART PLS. This study targets household electricity consumers in Palembang, Indonesia.

Results: The findings indicate that Environmental Knowledge has a significant impact on Green Purchase Intention, whereas green product awareness plays a notable role in influencing green purchase intention. Moreover, it was found that attitude did not significantly affect Green Purchase Intention. Green Product Awareness has a substantial effect on green purchase intentions. Notably, this study establishes that Environmental Knowledge does not impact Green Purchase Intention through attitude, indicating partial mediation. The findings of this study emphasize the critical role of Environmental Knowledge and Green Product Awareness in shaping green purchase intentions among electricity consumers in Palembang, Indonesia.

Limitations: Fostering an environment that is conducive to enhancing environmental literacy and promoting awareness of green products is imperative.

Contribution: This research explores the various elements that impact the likelihood of making eco-conscious purchases, particularly in relation to embracing renewable energy technologies.

Keywords: *Green Purchase Intention, Environmental Knowledge, Attitude, Green Product Awareness*

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1. Introduction

Green marketing has garnered significant attention not only from businesses, but also from researchers and governments. Concerns regarding environmental damage and global warming, coupled with the increasing scarcity of natural power sources, have prompted companies, researchers, and governments to explore alternative production methods that minimize negative environmental impacts. This includes designing sustainable and environmentally friendly products, known as green products (Costa, Santos, & Angelo, 2020; Olayinka & Lawan, 2023). The urgency of addressing global warming is evident, with discussions on related issues occurring in international forums (Tan et al., 2017). Environmental damage and global warming concerns have led to a shift in public behavior towards choosing alternative environmentally friendly products to ensure a sustainable living environment (Pebrianti, 2012). As public awareness of green products increases, companies are considering green marketing strategies,

particularly in significant industries (Doszhanov & Ahmad, 2015). The adoption of green marketing practices has become a pressing issue for addressing environmental issues.

The photovoltaic industry is among the industries contributing to the development of environmentally friendly and innovative products. This sector plays a vital role in the development of national electricity as an alternative to fossil fuels. The limited and non-renewable nature of energy sources presents a critical concern, given the rising demand for energy due to population growth and everyday energy needs, such as electricity. The environmental impact of using energy sources underscores the significance of renewable alternatives (Frastuti, 2020).

The Ministry of Energy and Mineral Resources (ESDM) is devising strategies to leverage renewable energy in response to the challenges posed by energy limitations and the environmental impacts of conventional energy sources. One strategy involves the utilization of solar rooftop power generation systems (PLTS) by consumers of the PT State Electricity Company (PLN) Persero. Renewable energy, particularly solar panels, presents a viable alternative to the widespread use of fossil fuels on a national and global scale, thereby mitigating the effects of global warming (Balakrishnan, S. Shabbir, F. Siddiqi, & Wang, 2020).

The benefits of PLTS over conventional energy sources are noteworthy. These include ease of maintenance and operation, leading to reduced pollution and greenhouse gas emissions. Additionally, PLTS are more cost-effective and seamlessly integrated into existing electricity systems (Frastuti, 2020). Jacobson et al. (2017) emphasize the alarming urgency of addressing global warming, advocating for the swift adoption of renewable energy to prevent global temperatures from exceeding 1.5°C. The significance of renewable energy has extended beyond its impact on global warming. It plays a pivotal role in ensuring the energy supply for countries worldwide and directly affects a nation's economic growth (Liu, 2017).

The utilization of renewable energy, particularly through systems such as PLTS, is still relatively novel and unfamiliar to the general public, especially in developing countries such as Indonesia. While the introduction of renewable energy, such as PLTS, began in the city of Palembang during the 2018 Asian-level sporting event, the SEA Games, where Palembang served as a pilot project for clean energy implementation using PLTS, its integration into daily life remains limited. The adoption of PLTS for daily energy needs has not been widespread in society, particularly in Palembang City. The utilization of PLTS among the general public is currently quite limited, and many are only beginning to understand that solar energy can be converted into electricity for everyday use (Suarasumsel.id, 2018).

The significance of adopting renewable energy often remains unnoticed, necessitating substantial efforts to raise awareness within society about the critical importance of transitioning to clean energy sources to combat the far-reaching consequences of global warming (Kartika & Medlimo, 2022; Vecchiato & Tempesta, 2015). The limited incorporation of renewable energy systems like PLTS into households can largely be attributed to the modest public interest in purchasing environmentally friendly products. Consequently, comprehending the factors that influence consumers' intentions to embrace renewable energy PLTS becomes imperative. Such an understanding could potentially drive increased adoption rates and contribute to fostering a future characterized by greater environmental sustainability. Green marketing has positive effects on consumers' buying interests. Service operation engineering is very important to increase consumer buying interest, as green marketing will implement service operation engineering support (Pahala et al., 2021). Green Marketing by the company will automatically increase the company's business towards being environmentally friendly, as well as its effect on its operations management (Nusraningrum, Mekar, Endri, & Ahmad, 2023).

A recent study underscores that environmental knowledge and attitude could serve as key factors in predicting consumers' inclination to purchase products with environmentally conscious intent (Kusuma & Handayani, 2018; Putri, Wahyuni, & Yasa, 2021). When consumers are informed about environmental concerns and the detrimental effects of hazardous materials, pollutants, and greenhouse gases, their interest in eco-friendly products is likely to be influenced. Those who choose green products

tend to consider the environmental implications of their choices, indicating that consumers who are well versed in green practices are more likely to opt for environmentally friendly options. Moreover, environmental knowledge can shape consumer attitudes toward favoring eco-friendly products (Haryanto & Budiman, 2014; Mondal, Akter, & Polas, 2023; Noor et al., 2012). Other studies have corroborated the positive impact of attitudes on consumers' inclination to buy products that are environmentally conscious or eco-friendly (Greaves, Zibarras, & Stride, 2013).

Interestingly, attitude can also function as a mediating variable between environmental knowledge and the desire to purchase with green intentions (Indriani, Rahayu, & Hadiwidjojo, 2019; Wulandari, Rahyuda, & Yasa, 2015). This indicates that consumers with strong environmental consciousness and a profound understanding of environmental issues, along with their repercussions of product usage, are likely to develop attitudes that influence their preferences and decision-making. Consequently, these attitudes can shape their interest in choosing environmentally friendly products (Eles & Sihombing, 2017).

An additional study suggested that an individual's awareness of environmentally friendly products can serve as a predictive factor in influencing their interest in using such products (Atulkar, 2022; S.-H. Chen, Chen, & Leung, 2023; Doszhanov & Ahmad, 2015). Green product awareness is linked to a consumer's ability to identify and acknowledge products that contribute to a reduced environmental impact (Lastriany, Sulistiobudi, & Sulastiana, 2021; Uddin & Khan, 2016). Growing awareness among consumers about the environmental threats posed by production processes has prompted companies, including governments, to incorporate environmentally friendly attributes into product creation. Consequently, the concept of a green marketing strategy has gained traction across various industries. Awareness among consumers of environmentally friendly products and their reception of these products has been noted (Korcaj, Hahnel, & Spada, 2015). Schelly (2014) found that consumers who are aware of green products tend to express interest in purchasing green products with green purchase intention.

This research differs from previous studies that focused on the energy used by manufacturing industrial companies in South Sumatra. While prior research has extensively explored the realm of green marketing concerning consumer interest in purchasing or using products, analyzing various influencing factors across different industries, discussion specifically focusing on green marketing strategies within the photovoltaic industry and renewable energy, particularly solar power plants, remains limited. Furthermore, while variables such as environmental knowledge, attitude, and awareness of green products have been individually studied as potential indicators of green purchase intention, there is a lack of comprehensive studies exploring their combined influence on consumer interest in green purchases, especially in the context of the photovoltaic industry and the utilization of renewable energy through solar power plants. Therefore, the main goal of this study is to identify potential factors shaping consumer interest in deep green product purchases, specifically centered on the decision to adopt renewable energy sources, such as solar power plants.

2. Literature review

2.1 Theory of Planned Behavior

The theoretical foundation for this study is based on Ajzen's (1985) Theory of Planned Behavior. According to this theory, the central elements in shaping behavioral intentions include behavior, subjective norms, and perceived behavioral control, all of which contribute to influencing actual behavior. An individual's attitude toward a specific behavior reflects their perception of it as either positive or negative. In accordance with the Theory, a more positive attitude toward a behavior is associated with a higher likelihood of adopting that behavior. A positive attitude often stems from a positive mindset when approaching situations and evaluating the outcomes of a behavior positively. This positive evaluation increases the likelihood of engaging in that specific behavior (Amoako, Dzobenuku, & Abubakari, 2020).

One important assumption made by Ajzen and Fishbein (1980) is that individuals are rational, create decisions based on the information, and consider the implication of action they are before being

involved or not involved in something behavior. In addition, Ajzen and Fishbein (1980) indicate two factors that determine behavior: belief-related behavior with consequence behavior on one side, and beliefs-related normative behavior with other people's recipes (Sharma & Foropon, 2019). Research findings indicate that the adoption of renewable energy has had a notably positive and substantial impact on the economic growth of several countries. These include Ukraine, Sweden, Slovenia, Poland, Peru, Netherlands, Mexico, the Republic of Korea, Kenya, Japan, Ireland, Greece, Germany, Finland, Denmark, Czech Republic, China, Chile, Bulgaria, Brazil, Austria, and Australia (Shahbaz, Raghutla, Chittedi, Jiao, & Vo, 2020). Thus, many countries have started to move from using energy, not renewable, to becoming renewable energy over a period of time. This is the background government, through the Ministry of Energy and Mineral Resources, to increase the capacity to use renewable energy among them using PLTS. Ajzen and Fishbein (1980) proposed a fundamental assumption that individuals are rational decision-makers who base their choices on information and a careful evaluation of potential outcomes. They also identified two key factors that influence behavior: behavioral beliefs concerning the consequences of an action, and normative beliefs related to the opinions of others (Sharma & Foropon, 2019).

Empirical research demonstrates that the adoption of renewable energy has a notably positive and substantial impact on economic growth in various countries such as Ukraine, Sweden, Slovenia, Poland, Peru, the Netherlands, Mexico, the Republic of Korea, Kenya, Japan, Ireland, Greece, Germany, Finland, Denmark, the Czech Republic, China, Chile, Bulgaria, Brazil, Austria, and Australia (Shahbaz et al., 2020). The Theory of Planned Behavior (TPB) has demonstrated diverse applicability across a range of domains, ranging from predicting intentions in sports and smoking behavior to analyzing the impact of company policy violations on employee physical activity. The TPB has also been used to examine attitudes and subjective norms in relation to behavioral intentions, study financial contributions and their effects on specific behaviors, address health-related concerns, and examine and assess real visitation patterns within the tourism sector. Furthermore, TPB holds a prominent place among one of the most impactful theories in psychology, the social sciences, and health, it has been verified and affirmed in the context of pro-environmental conduct (Sharma & Foropon, 2019).

2.2 Green Marketing

Marketing management is a structured approach employed by businesses to identify their target markets and efficiently deliver products or services to consumers, aiming to achieve maximum profitability (Sholihin & Oktapiani, 2021). In this endeavor, field marketing and green advertising play a pivotal role in devising promotional strategies that raise customer awareness of environmental issues. The dissemination of messages about green energy products and their utilization are endorsed by companies in the marketplace (Atulkar, 2022). This strategy is increasingly favored as organizations need to align with the growing concerns and demands of consumers, while contemporary society places greater emphasis on ecological and environmental impacts (Mandliya, Varyani, Hassan, Akhouri, & Pandey, 2020).

Green marketing involves collaborative efforts to manufacture and produce sustainable products. Scholars have contributed significantly to different facets of green marketing, including the examination of consumer attitudes and behaviors toward eco-friendly products, identifying suitable markets for these products, segmenting consumer markets based on their needs, creating positioning strategies for green products, and designing marketing mixes tailored to green products. The marketing mix for green products needs to be carefully crafted to raise public awareness and garner acceptance of eco-friendly initiatives and products (Pant, Panwar, Chaudhary, & Kumar).

Consumer decisions regarding product selection frequently relying on environmental values, consumers who give priority to ecological considerations are more inclined to choose household equipment that conserves energy, such as energy-efficient ladders (Waris & Hameed, 2020a). An increased level of environmental concern amplifies the likelihood of being pro-environmental (Arroyo & Carrete, 2019). Lavuri et al (2022) did a study related to influencing green factors intention consumers to buy product beauty premium organic using the equation model structural. Research results show that green ads, green brand image, and perception effectiveness consumers have a positive influence on the attitude of

consumers to product beauty premium organic, and trust consumers products organic influential negative significant to attitude consumers, while Lifestyle of Health and Sustainability (LOHAS), the individual's influence on consumer attitudes is not solely internal. This impact on consumer attitudes ultimately shapes consumers' intentions to purchase premium organic beauty products. These findings align with the outcomes observed in a similar research study by Roh, Seok, and Kim (2022) and Joshi et al (2021) which states that the attitude of the consumer, norm subjective, and belief own influence positive significant factors main to intention buy.

The study conducted by Joshi & Rahman (2015) on influencing factors in environmentally friendly purchasing behavior revealed that consumer environmental concern and the functional attributes of products are two main determinants of green consumer purchasing behavior. This finding was further supported by Kusuma and Handayani (2018), who highlighted the positive and significant influence of knowledge about the environment and the use of eco-friendly advertising on attitudes toward the environment, ultimately impacting green purchase intention. However, Costa et al. (2020) found different results, indicating that environmental awareness did not affect purchase intentions.

H1: Environmental Knowledge significantly influences Green Purchase Intention.

Another study demonstrated that a limited-time promotion can lead to a higher intention to purchase green products than promotions with limited quantities, as reported by Liang et al. (2022). A similar investigation into the impact of promotions on purchase intentions was carried out by Chi (2021), which indicated that eco-branding, eco-labeling, and social media have a significant influence on the inclination toward green consumption. (Sreen, Purbey, & Sadarangani, 2018) delved into the connection between individual behavior and the intention to buy environmentally friendly products, using the Theory of Planned Behavior (TPB). They discovered that collectivism has a substantial correlation with three crucial predictors—attitude, subjective norms, and internal perceived behavioral control—ultimately shaping the intention to make green purchases. This discovery was substantiated by subsequent research conducted by Choi and Johnson (2019), demonstrating that the constructs of TPB explained a significant portion of the variance in purchase intentions, with attitudes and subjective norms playing particularly influential roles. The most recent study by Hou and Sarigöllü (2022) introduced the notion of an expanded scale to convey the benefits of green products, enhancing consumer perceptions, and thereby fostering intentions to make green purchases.

H2: Environmental Knowledge significantly influences attitude.

Consumer inclinations regarding energy conservation have been experiencing an upward trend. Consumers' emotional involvement in creating a safe environment provides producers with an opportunity to craft environmentally friendly products. The energy conservation behavior of consumers is influenced by their concern for the environment (Waris & Hameed, 2020b). Attitude refers to the inclination of individuals towards favorable or unfavorable perspectives on objects, individuals, or situations shaped by personal experiences and cognitive processes. Regarding energy consumption within households, consumer attitudes toward energy conservation are influenced by the economics of energy (Waris & Hameed, 2020a).

H3: Attitude significantly influences Green Purchase Intentions.

It is of paramount importance for both collaborative efforts from both the government and service providers to increase customer awareness and equip them to address existing and future challenges related to energy.. Heightened environmental concerns enhance customer effectiveness and encourage participation in environmental protection. Therefore, service providers and governmental bodies should employ various promotional media to raise customer awareness, which plays a pivotal role in purchasing interests (Atulkar, 2022).

H4: Green Product Awareness significantly affects Green Purchase Intention.

Attitude can also function as a mediating variable between environmental knowledge and the desire to purchase green products (Indriani et al., 2019; Wulandari et al., 2015). This suggests that environmentally aware consumers with a profound understanding of environmental issues and the repercussions of a product's impact are likely to develop attitudes that influence their preferences and

decision-making. Consequently, these attitudes can shape their interest in choosing environmentally friendly products (Eles & Sihombing, 2017).

H5: Environmental Knowledge significantly influences Green Purchase Intentions through the mediation of attitude

Given the context outlined above, this study seeks to explore the impact of environmental knowledge, attitudes, and awareness of green products on the intention to make environmentally conscious purchases within the framework of Solar Power Generation in Palembang City, Indonesia. Additionally, this study aims to examine the potential mediating role of attitudes in the correlation between environmental knowledge and intentions to purchase green products related to Solar Power Generation in Palembang City, Indonesia.

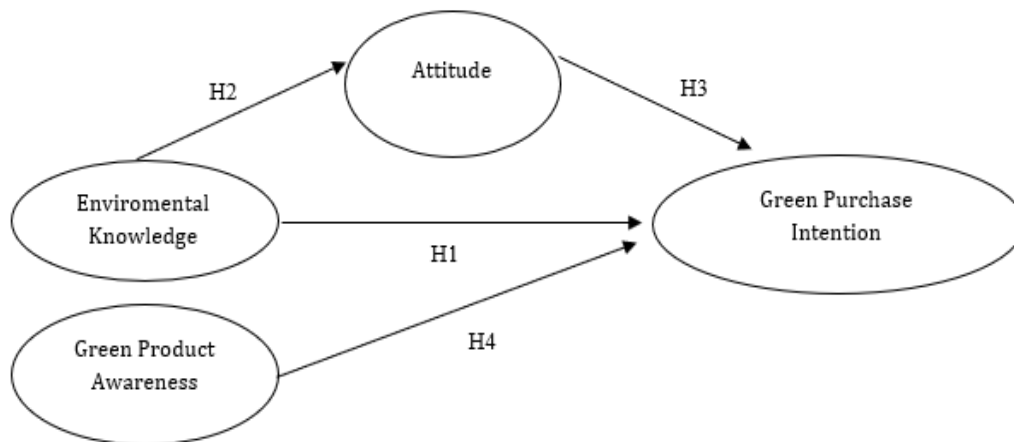


Figure 1: Conceptual Framework
Source: Authors' own research.

3. Methodology

3.1 Sample and Data Collection

The chosen research design for this study was a causal design, selected with the aim of revealing and elucidating the cause-and-effect relationships between variables by testing the hypotheses. This involves the identification of the independent and dependent variables. This design not only investigates causal links but also sheds light on how the interaction between variables and the research problem aligns with the research objectives. This study employed a quantitative approach to achieve these goals.

The study population comprised customers of a State Electricity Company (PLN). Employing a purposive sampling technique, the study selected samples based on specific criteria, involving the determination of the sample size beforehand and subsequent handpicking of samples based on precise criteria. The primary data for the research were gathered through questionnaire responses. The sampling criteria included PLN consumers residing in Palembang. However, conducting a comprehensive examination and analysis of the entire population could lead to significant expenses and inefficiency. According to data from the Central Bureau of Statistics, the total number of electricity customers will reach 697,127 in 2022. Consequently, the researchers chose to opt for a random sample of 400 customers to investigate causality

3.2 Measurement

As stated by Sugiyono (2013), research instrument testing is a pivotal tool for the precise measurement of both natural and social phenomena under observation. Reliability serves as an indicator of the extent to which a measurement tool can be deemed dependable. It can also be construed as a measure of the trustworthiness, consistency, and reliability index of a particular entity. According to Sugiyono (2013), an instrument is considered reliable if it can consistently yield the same data for multiple applications to measure the same object. Reliability can be assessed using statistical techniques such as Cronbach's alpha. An instrument was deemed reliable if its α value exceeded 0.60. The reliability level, whether

high or low, is represented by the reliability coefficient, which ranges from zero to one. A coefficient approaching one signifies a more dependable measurement tool.

In this study, in-depth data analysis was carried out using the Structural Equation Model (SEM) with the assistance of the SMART PLS program. The data gathered through the questionnaires will be analyzed to offer insights into the study's hypotheses. The measurement models of the questionnaire-based research were subjected to validity and reliability tests. Simultaneously, a structural model was utilized to evaluate the hypotheses formulated for this study. The hypothesis-testing process encompasses two distinct models: the direct relationship model and the mediation model, which involve mediation variables.

Table 1. Definition of variables

Variable	Description Variable	Indicator
Environmental Knowledge (X1)	Knowledge environment refers to opinion and understanding somebody to issues environmental consequence impact negatively from use of energy fossil in activity consumption House stairs. Adapted from: (Wang, Wong, & Narayanan Alagas, 2020)	Awareness of the repercussions of climate change includes its implications on household insulation and global warming. Understanding the detrimental effects of environmental issues is crucial. Familiarity with efficient methods to combat global climate change involves minimizing energy consumption. Grasping the cause-and-effect relationship between household emissions and global warming is essential. Adapted from: Kaiser et al (1999)
Attitude (Y1)	An individual's behavior is significantly influenced by their attitude, influencing their preferences and decisions related to products or their inclination to purchase within a friendly environment. Adapted from : (Eles & Sihombing, 2017; Tsen, Phang, Hasan, & Buncha, 2006)	Attitude in use products made from raw source Power natural renewable. Gather information on environmentally friendly products and evaluate attitudes towards the impact of environmental pollution. Adopted from : (I. Y. Chen, Chen, & Kinshuk, 2009; Costa et al., 2020).
Green Product Awareness (X2)	Raising awareness among individuals to use green products involves their capacity to recognize and identify environmentally friendly products (green products) capable of mitigating pollution and adverse environmental effects caused by the utilization of fossil fuels and instead utilizing natural energy sources. Adopted from : (Uddin & Khan, 2016)	Recognizing the consequences of environmental degradation. Being conscious of environmentally friendly products. Understanding the importance of using environmentally friendly products. Adopted from (Wolske, Stern, & Dietz, 2017).
Green Purchase Intentions (Y2)	The inclination to buy environmentally friendly products reflects an individual's aspiration to select and utilize products that are environmentally conscious, opting for renewable energy sources over those derived from fossil fuels.	Deliberation regarding the adoption of environmentally friendly products. Intentions to incorporate environmentally friendly products. Intention to stick with non-switching from conventional products to eco-friendly alternatives.

	Adopted from : (Eles & Sihombing, 2017; Saeed et al., 2013).	Adopted from : (Palm, 2017; Uddin & Khan, 2016).
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Source: Authors' own research (2023)

4. Result and discussions

4.1 Validity Test

According to Chin (1998; in Hock and Ringle, 2006: 195) states validity convergent reviewed from mark outer loadings and Average Variance Extracted (AVE) where value cut off value on each value, namely: for outer loadings/loading factor required value is 0.7 however for study stage initial, value 0.5-0.7 still stated passed the validity test convergent (Ghozali and Latan, 2015, p. 74). Each variable exhibits outer loadings exceeding the threshold of 0.7. Consequently, all items linked to the variables successfully met the outer loading test. Convergent validity is attained when the Average Variance Extracted (AVE) achieves a value ≥ 0.5 . The results of the convergent validity tests demonstrate that the third variable employed in the study is valid, as indicated by its AVE value exceeding the threshold of 0.5. All the variables employed in the research exhibit reliability, as indicated by Cronbach's alpha scores exceeding 0.7. Therefore, it can be deduced that the data successfully cleared the reliability test, allowing for the progression of data analysis.

All variables exhibited Composite Reliability values exceeding 0.7, indicating the reliability of the data and enabling the progression to the next stage of testing and data processing. The forthcoming data analysis will provide initial insights into the results of the inner model test of the structural model, with a specific emphasis on determining the coefficients (R²). The assessment of coefficient of determination (R²) values follows a scale ranging from 0 to 1 and is categorized into three criteria for evaluation. First, an R² value between 1 and 0.75 indicates a substantial or strong characteristic. Secondly, an R² value between 0.74 and 0.5 suggests a moderate characteristic. Lastly, an R² value between 0.49 and 0.25 reflects a weak characteristic. Based on the outcomes, the determination coefficients (R-squared) for the examined constructs are as follows: the donation variable, environmental knowledge, and green product awareness collectively explain 42.8% of the variance in the attitude variable. The remaining 57.2% (100–42.8) of the variance was ascribed to external variables beyond the scope of this research. Similarly, the combined impact of the donation variable, environmental knowledge, green product awareness, and attitude on the green purchase intention variable was quantified at 54.9%. Conversely, the remaining 45.1% (100–54.9) were subject to the impact of external variables not accounted for in this study.

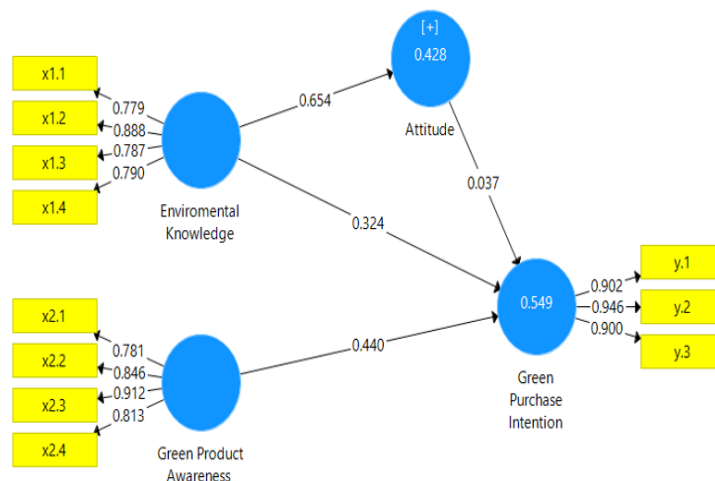


Figure 2: PLS Algorithm
Source: Authors' own research results

In terms of the criteria for significance testing, a probability value exceeding 0.05 indicates an absence of significant influence between independent and dependent variables, leading to the acceptance of H₀ and the rejection of H_a. Conversely, a Probability value below 0.05 signifies a

noteworthy impact between independent and dependent variables, resulting in the rejection of H0 and acceptance of Ha. According to the data presented in Table 2, the findings suggest that attitude does not exert an impact on Green Purchase Intention, as the P-value of 0.759 is greater than 0.05, indicating the acceptance of H0 and rejection of Ha. However, the analysis highlights a statistically significant positive influence of the Environmental Knowledge variable on attitude, as evidenced by a p-value of 0.000, which is less than 0.05, leading to the rejection of H0 and acceptance of Ha.

Table 2. Calculation Results Bootstrapping

Code	Hypothesis	Original sample	Q statistics	P values	Conclusion
H1	Attitude -> Green Purchase Intention	0.037	0.307	0.759	Rejected
H2	Environmental Knowledge -> Attitude	0.654	15,700	0.000	Accepted
H3	Environmental Knowledge -> Green Purchase Intention	0.324	4,978	0.000	Accepted
H4	Green Product Awareness -> Green Purchase Intention	0.440	4,053	0.000	Accepted

Source: Authors' own research results

Furthermore, the analysis revealed a notable positive impact of the Environmental Knowledge variable on Green Purchase Intention, indicated by a p-value of 0.000, which is less than 0.05. This leads to the rejection of H0 and acceptance of Ha. Similarly, the examination demonstrates a statistically significant positive influence of the Green Product Awareness variable on Green Purchase Intention, with a P-value of 0.000, also falling below 0.05, resulting in the rejection of H0 and acceptance of Ha.

Table 3. Calculation Results Bootstrapping

Code	hypothesis	Original sample	Q statistics	P values	Conclusion
H1	Environmental Knowledge -> Attitude -> Green Purchase Intention	0.024	0.305	0.761	Rejected

Source: Authors' own research results

According to Table 3, there is no observable impact between environmental knowledge and attitude or between attitude and green purchase intention. This was confirmed by the P-value of 0.761, surpassing the significance level of 0.05. In essence, the null hypothesis (H0) is accepted, whereas the alternative hypothesis (Ha) is rejected. This indicates that attitude does not play a significant mediating role in the connection between environmental knowledge and green purchase intention.

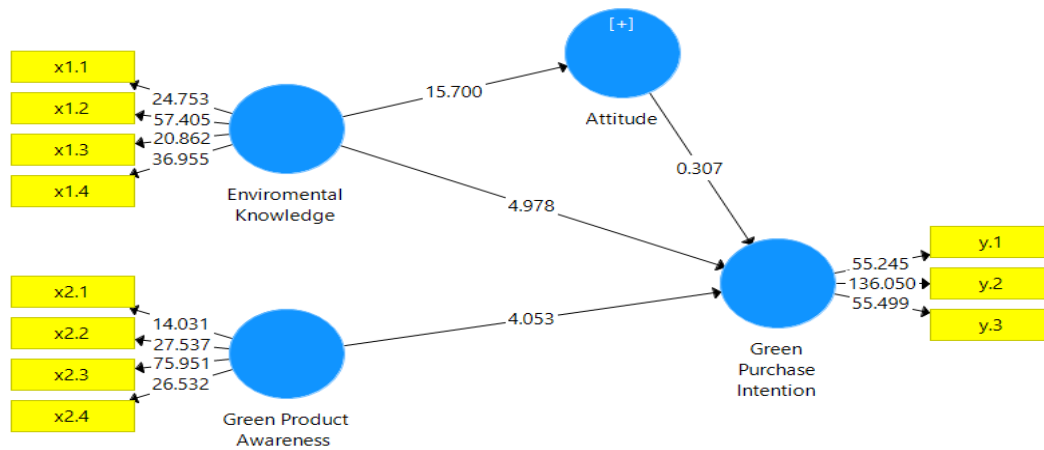


Figure 3: Botstraping result
Source: Authors' own research results

4.2 Discussion

Environmental knowledge has emerged as a potential driver influencing consumers' inclination toward environmentally friendly product purchases. This study also highlights the impact of environmental knowledge on shaping consumer decisions regarding the adoption of solar power generators such as Solar Power Plants (PLTS) in Palembang City. These findings align with those of (Kusuma & Handayani, 2018; Putri et al., 2021), suggesting that a profound understanding of environmental issues is a pivotal factor that influences consumer enthusiasm for eco-friendly products. Additionally, the study by [Author] indicates that environmental knowledge is a potential factor in predicting consumer interest in environmentally friendly products. Similarly, Pratiwi and Sulhaini (2018) underscore the positive and significant influence of environmental knowledge and green advertising on consumer interest in and purchasing behavior towards green products. Based on the results of hypothesis testing, and consistent with the previous findings of the study, it is evident that consumers' awareness of environmental knowledge plays a pivotal role. Specifically, concerns regarding the adverse effects of hazardous chemical substances, pollutants, and greenhouse gases have a notable influence on consumers' inclination toward environmentally friendly choices (green purchase intention).

Environmental Knowledge significantly influenced attitudes. The outcomes from the hypothesis testing, as indicated in Table 6, reveal a p-value of 0.000, falling below the significance threshold of 0.05. Therefore, one can infer that the environmental knowledge variable holds significant sway over the formation of a meaningful attitude, thus leading to the acceptance of Hypothesis 2 (H2). Environmental Knowledge is a potent determinant of a person's inclination to embrace eco-friendly products. This observation aligns with the findings of prior studies, such as those conducted by (Haryanto & Budiman, 2014; Noor et al., 2012), both of which underscore the significance of environmental knowledge in shaping consumer perspectives on the purchase of environmentally friendly products.. Further substantiating these results, Pratiwi and Sulhaini (2018) underscore the positive and substantial impact of environmental knowledge and eco-friendly advertising on molding consumer attitudes towards the utilization of green products.

Additionally, the substitution of fossil fuels for renewable energy sources has an impact on consumer attitudes. This shift in attitude aligns with economic considerations and energy-saving behaviors, as highlighted by (Waris & Hameed, 2020a). Attitude plays a significant role in shaping Green Purchase Intention. However, the hypothesis testing results presented in Table 6 show a p-value of 0.759, exceeding the critical threshold of 0.05. Hence, it can be concluded that Attitude does not exert a notable influence on the formation of meaningful green purchase intentions. Consequently, Hypothesis 3 (H3) is rejected, suggesting that despite consumers' attitudes, these attitudes do not significantly affect their intention to buy environmentally friendly products. Factors other than attitude likely play a crucial role in influencing consumers' decisions related to green purchases. It is evident that the variable "attitude"

is not necessarily the sole determining factor influencing consumer decisions to opt for environmentally friendly products. This conclusion diverges from earlier findings. Prior studies, including those conducted by Tan et al. (2017) and Greaves et al. (2013), highlight attitude as a variable with the potential to sway consumer interest towards eco-friendly products. Furthermore, research by Roh et al. (2022) and Joshi et al. (2021) underlines the substantial and positive influence of consumer attitudes on purchase intentions for various products. However, the outcomes of the present study align with those of Nguyen et al. (2018) and (Taufique & Islam, 2021), both of which suggest that attitude may not significantly affect consumer interest in purchasing green products.

Attitude does not substantially influence green purchase intention. This may be related to the link between attitudes and individual habits. Consumers often adhere to established consumption patterns and may not view the adoption of green products as essential. Despite being aware of the environmental consequences and potential hazards associated with certain products, consumers may demonstrate a gap between their knowledge and actual behavior, as suggested by Hume (2010). Environmental concerns and attitudinal inclinations may not translate into corresponding purchasing behaviors. This disparity may stem from the presence of other influential factors that impact consumers' intentions to opt for green products (Grimmer & Wooley, 2014). In summary, the limited influence of attitude implies the involvement of various factors in consumers' decision-making processes when considering the integration of more environmentally friendly options, such as solar power generators (PLTS).

The influence of Green Product Awareness on Green Purchase Intention is notable. Green Product Awareness has emerged as a potent factor in shaping consumers' intentions to buy environmentally friendly products. This finding is consistent with those of earlier studies by Atulkar (2022); (Doszhanov & Ahmad, 2015; Hernizar 2020). The results of these studies emphasize that consumer awareness of eco-friendly products can serve as a reliable predictor of consumer decisions in favor of green products. When consumers possess heightened awareness of green products, their concern for environmental sustainability intensifies. This heightened awareness prompts consumers to prioritize the benefits associated with green products, while also considering the potential environmental harm caused by products containing harmful materials. This increased environmental consciousness encourages consumers to contribute actively to environmentally friendly practices. Consequently, this underscores the significance of initiatives by government bodies and service providers aimed at fostering consumer awareness of the advantages linked to adopting green products (Atulkar, 2022).

In this study, a conscious consumer possesses the ability to identify and acknowledge environmentally friendly products (green products) that contribute to reducing environmental pollution (Tseng & Hung, 2013). This heightened awareness among consumers translates to green product awareness. Furthermore, this awareness influences consumer reception and product adoption (Korcay et al., 2015). Research conducted by Schelly (2014) notes that consumers who are environmentally aware and possess knowledge of environmentally friendly products Individuals who possess awareness of green products are more inclined to show interest in using such products, as reflected in their green purchase intention. Hence, it can be inferred that consumers' awareness and concern about the environment can influence their decision to adopt more environmentally friendly options, such as solar-powered generators (PLTS).

Green purchase intention was not noticeably affected by environmental knowledge through attitude as a mediating variable. Environmental Knowledge does not directly or significantly influence Green Purchase Intention through attitudes. These results diverge from research conducted by (Indriani et al., 2019; Wulandari et al., 2015), implying that attitude functions as a mediating variable between environmental knowledge and the intention to purchase green products. This discrepancy highlights the complexity of the relationship between these variables and how they interact in different contexts.

The results of this study suggest that environmental knowledge does not have a direct impact on consumers' inclination to purchase environmentally friendly products or significantly influences the decision to adopt solar-powered generators (PLTS). Additionally, attitude did not function as a mediating variable between environmental knowledge and the intention to purchase green products.

Although consumers' knowledge of green products can influence the formation of attitudes toward them, these attitudes may not consistently align with the understanding that using such products can reduce environmental harm. This inconsistency can be attributed to the fact that attitudes often do not consistently reflect the knowledge individuals possess, leading to a disconnect between the desire to reduce environmental damage and the actual purchase behavior of green products (Hume, 2010). Ultimately, this finding suggests that attitude does not mediate the relationship between Environmental Knowledge and green purchase intention.

Contribution to green energy research in South Sumatra involves various aspects aimed at promoting sustainability and reducing the environmental impact. A comprehensive assessment of renewable energy potential in South Sumatra, including solar, wind, and biomass resources. This involves mapping suitable locations for solar and wind farms, and identifying biomass sources for bioenergy production. Detailed feasibility studies for green energy projects are performed, as well as the economic viability and technical feasibility of implementing solar, wind, or biomass energy systems in specific areas of South Sumatra. Promoting the adoption of innovative and efficient green energy technologies. This includes researching and implementing cutting-edge technologies for solar panels, wind turbines, and biomass conversion processes to enhance the energy output and reduce costs. Conducting outreach programs to raise awareness of the benefits of green energy within local communities. This involves educating residents about the environmental advantages, job creation, and economic benefits of renewable energy projects.

Collaboration with government authorities advocates for policies that support and incentivize the development of green energy projects in South Sumatra. This may include recommending regulatory frameworks, subsidies, or tax incentives to encourage investments in sustainable energy. Provide training programs for local technicians, engineers, and workers in the field of green energy. This helps build local expertise and ensures the long-term sustainability of renewable energy projects in the region. Implementing robust monitoring and evaluation systems to track the performance of green energy projects. This involves regularly assessing energy production, environmental impact, and socioeconomic benefits to optimize project efficiency. Collaborating with national and international research institutions to exchange knowledge, share best practices, and stay informed about the latest advancements in green energy research and technology. By actively engaging in these initiatives, South Sumatra can significantly contribute to the development and promotion of green energy, fostering a sustainable and environmentally friendly energy landscape for the region.

5. Conclusion

The foundation of green marketing strategy is firmly rooted in environmentally conscious economics. To contribute to a better understanding of the efficacy of green marketing strategies, this study addresses a gap in the current literature by exploring the key factors influencing Green Purchase Intentions in the adoption of Solar Power Plants (PLTS) in Palembang, Indonesia. These results underscore the pivotal role of Environmental Knowledge and Green Product Awareness in shaping Green Purchase Intentions. To leverage these findings, policy implications should prioritize educational initiatives that promote environmental awareness and highlight the advantages of adopting green products. Implementing comprehensive educational campaigns, workshops, and informational programs to enhance public awareness and knowledge of environmental issues can foster a more sustainable and environmentally conscious consumer base.

Moreover, as this study indicates that attitude alone does not significantly impact Meaningful Green Purchase Intentions, policy efforts should focus on fostering a holistic approach that encourages a shift in consumer perspectives and behavior towards environmentally sustainable choices. Encouraging the adoption of eco-friendly products through incentives and tailored marketing strategies can play a crucial role in influencing consumer attitudes and behaviors towards sustainable living practices.

Furthermore, research highlighting the mediating role of Environmental Knowledge in shaping Green Purchase Intentions suggests the need for policies that facilitate the dissemination of accurate and accessible environmental information. Developing platforms for easy access to reliable information on

eco-friendly products and sustainable practices can empower consumers to make informed and environmentally conscious purchase decisions. Implementing transparent and easily accessible channels for information dissemination can strengthen the connection between consumer knowledge, attitudes, and environmentally conscious purchasing behavior, contributing to a more sustainable and environmentally responsible marketplace.

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