



Application of the extended theory of planned behavior to predict green product purchase behavior

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Article Info	Abstract
<p>Keywords: Environmental Knowledge, Green Purchase Behavior, Social Media Marketing, Theory of Planned Behavior</p>	<p><i>The importance of buying green products has been well publicized on social media. However, sales of green products remain considerably low. Marketers and academics aim to investigate the factors that influence green purchasing behavior. The aim of this paper is to examining the effect of attitude, subjective norms, perceived behavioral control, on green purchase intention. Because there is attitude-behavior gap, this study also provides a meaningful contribution by extending the Theory of Planned Behavior by incorporating social media marketing, environmental knowledge, and green product purchase behavior. A quantitative approach was used to collect data through online questionnaires. A total of 249 samples were analyzed using structural equation modeling (SEM) with Smart PLS. The results align with existing literature, reinforcing the importance of attitude, perceived behavioral control, social media marketing, and environmental knowledge in shaping consumers' intentions and behaviors. However, subjective norm does not significantly perform as a direct antecedent on purchase intention. Social pressure is not enough to drive consumer purchasing environmentally products. These results can assist business owners and social media marketers to focus on promoting green image and continuously produce educative content which could enhance people awareness on the importance of green product consumption.</i></p>

1. INTRODUCTION

People consumption has a significant effect on the environment. The increasing demand of product automatically led to exploit natural resources to support economic growth as a whole. In developing countries, economic growth has led to excessive consumption of natural environment (Yue & Xue, 2020). Green consumption then introduced to address environmental problem (Li et al., 2021). In the recent years, consumers consider on environmental aspect when making their consumption decision (Ling et al., 2023). Enterprises also realized that green products have a broad market potential, and they have a willingness to promote green product to capture the momentum (Risitano et al., 2023; Ningrum et al., 2023).



However, although customers' willingness to consume green products is growing positively, the actual purchases of green products are still relatively low. Based on the survey from Snapcart about green products consumption behavior in Indonesia, several factors that caused low actual purchases of green products as follows; 1) 45 percent of consumers do not fully understand about the concept of environmentally friendly products, 2) 22 percent of consumers perceived that the price of green products is higher than the conventional products, 3) 20 percent of consumers feel that green products are hard to find (Karyoko, 2024).

Enterprises have been utilizing various channel to promote green product both on conventional media and on social media (e.g Instagram, Facebook, and Website) (Xie & Madni, 2023). Social media has proved its importance role in shaping consumers' purchase decision toward green products (Armutcu et al., 2024). Based on the data from Statista.com that the total number of active social media users in Indonesia had around 167 million in 2022, ranking third in Asia Pacific, after China and India. For Indonesians, social media has been an essential tool to communicate and interact with friends and family. Facebook is the leading social media platform in Indonesia with a market share of approximately 53 percent in 2023, followed by Whatsapp and Instagram as the highest social media penetration rate in Indonesia, which reached to 91 percent. Since social media marketing offer a great potential to promote green product, enterprises can capture the opportunity to introduce their green products through attractive content both photo and video (Crapa et al., 2024). Hence, it is crucial for enterprises to understand how social media could be a meaningful channel to promote green products. It also essential to examine what factors that able to affect consumers purchasing behavior.

There are many factors that could affect consumers green purchase behaviors. Based on the Theory of Planned Behavior (TPB), individual behavior is influenced by behavioral intention. More specific, TPB has three main constructs of shaping people behavioral intention: 1) attitude, 2) subjective norm, and 3) perceived behavioral control. Prior studies also stated that TPB is appropriate to predict consumers cognitive factors toward green purchasing behavior (Gansser & Reich, 2023). So that, TPB can be used as a basic theoretical framework to understand consumers green purchasing intention. However, despite the positive correlation between consumer attitude and purchasing intention, the actual purchases of green product are relatively low. Previous studies reported a discrepancy between attitude toward green consumption and actual behavior. For example, Munerah et al., (2021) reported that although consumers have favorable attitude toward green products, they do not perform green purchase behavior. The gap between consumers desire and their actual behavior can be said as "green attitude-behavior gap". Prior studies have attempted to employ TPB to address "green attitude-behavior gap" (Chaihanchai & Anantachart, 2023; Duong, 2024). Moreover, study by Sun & Wang (2020) recommend to add actual purchase behavior as a complement variable that able to influence individual purchase intention. Therefore, it is important to identify relevant factors linking with TPB determinants and driving green actual purchase decision.

To complement the existing literature, this study proposed an extended TPB model with modification in two aspects. First, we added social media marketing as another antecedent of green purchase intention. Second, we added environmental knowledge into a model to explore its plausible mediating role between social media marketing and purchase intention. While Hamzah & Tanwir (2021) identified that better knowledge leads to greater responsiveness and more engagement in environmentally friendly behaviors, Kamalanon et al. (2022) reported that environmental knowledge did not significantly mediate environmental concern on green purchase intention. Moreover, there are also inconsistent finding between social media marketing and green purchase intention. Study by Naz et al., (2022) revealed that social media marketing has a significant influence on green purchase intention while Wardana et al. (2024) showed that creativity on social media did not influence consumers interaction. Hence, we aimed to analyze the mediating effect of environmental knowledge on the relationship between social media marketing and green purchase intention. The empirical evidence from this extended TPB framework provides a meaningful insight for entrepreneurs on the factors influencing consumer purchase behavior.

This paper presents the empirical study and analysis start from describe the relevant literature review and hypothesis. Then continue explaining the research methodology, and next section is to demonstrate the hypothesis testing and result. The last section is concluded the main findings.

2. LITERATURE REVIEW

Theory of Planned Behavior (TPB) is an extended model from previous framework known as Theory of Reasoned Action (TRA) that includes new essential variable named perceived behavioral control (PBC). The addition of new variable is crucial because its original model has a limitation in predicting individual behaviour (Ajzen, 1991). Thus, TPB assumes that individuals purchasing behavior are influenced by attitudes, subjective norm, and perceived behavioral control (Hadi, Sentosa, & Ab Wahid, 2022). Ajzen emphasizes that customers' purchasing behavior are inherent with their personality and character. TPB has been used in various contexts to help enterprises and marketers understand and predict consumer behavior toward green products (Ha et al., 2021; Sun et al., 2022; Teng et al., 2021). The TPB model considers essential factors such as attitude, subjective norms, and perceived behavioral control, which are substantial in determining consumer purchase intentions for green product (Kok, 1995).

Studies have shown that attitude and subjective norm significantly influence consumer purchasing tendency of green products (Yan et al., 2019). Additionally, the TPB frameworks also extended to incorporate other constructs such as environmental concern to provide better explanation on consumer purchase intentions for different types of green products (Zhang et al., 2019). Furthermore, TPB also has been used in various context such as in developing countries (Soliman, 2021) and specific regions like Malaysia (Teng et al., 2021) and China (Sun et al., 2022). These studies have highlighted the importance of factors like environmental commitment and social media marketing in influencing green purchase behavior (Al-Kumaim et al., 2021; Armutcu et al., 2024).

In the focal context, we applied TPB to evaluate the antecedent factors of green product purchasing behavior. The independent variables of green purchasing behavior mainly included attitude toward green products, subjective norms, and perceived behavioral control. Additionally, we extended the TPB model by adding social media marketing and environmental knowledge as another substantial antecedents of green purchase intention. [Hossain et al. \(2022\)](#) using environmental knowledge as crucial predictor on pro-environmental behavior for energy-efficient household appliances, meanwhile [Luo et al. \(2020\)](#) reported that green advertising skepticism plays an important role in predicting green purchase intention; therefore we argue that social media marketing and environmental knowledge have an antecedent role in the green product context.

Attitude Toward Green Purchase Intention

Attitude is an individual overall evaluation toward any specific product ([Ajzen, 1991](#)). In the context of green product purchasing, attitude represents individual perceived either negative or positive toward the act of purchasing green products ([Hoang & Hoang, 2023](#)). Green consciousness has been influencing consumers to have tendency purchasing product which aware on environmental effect. Accordingly, the market size of green products also considered has enormous growth which able to generate economic benefits. Several previous research have indicated that attitude is a crucial predictor of people purchase intention ([Latip et al., 2023](#); [Najib et al., 2022](#)). Also, consumer positive attitude has become substantial factor which influence purchase behavior. Therefore, consumers with positive attitude toward environmentally friendly products might be more willing to purchase green products. In addition, many studies found that attitude toward green product is significantly influence purchase intentions ([Correia et al., 2023](#); [Soliman, 2021](#)). Based on the description above, the researcher presents the following hypothesis:

H₁: Attitudes toward green products significantly affect consumers' intention to purchase green products.

Subjective Norm Toward Green Purchase Intention

Subjective norms refer to individual feelings of social pressure that they got from others who are important to form person's performance in some way ([Ajzen, 1991](#)). In the context of environmentally friendly products, subjective norm means the degree that consumers will support or resist the products in the face of social pressure. Accordingly, subjective norm is considered to be a substantial predictor in sustainability research on green products purchasing behavior which reflects the effect of social environment. Previous studies have found the effect of subjective norms on consumers' purchase intention. The finding by [Xie & Madni \(2023\)](#) reported that subjective norm has a significant impact on green purchase intention. [Palomino & Barcellos-Paula \(2024\)](#) also found that subjective norm has a significant effect on attitude toward green products. The current research suggested that when consumers realize that their friends or family prefer to purchase green products, they will develop willingness to purchase environmentally friendly products. However, research conducted by [Kamalanon et al. \(2022\)](#) revealed that subjective norm do not have a significant influence on purchase intention. Therefore, those inconsistency findings need

further explanation. Based on the description above, the researcher presents the following hypothesis:

H₂: Subjective norms significantly affect consumers' intention to purchase green products.

Perceived Behavioral Control Toward Green Purchase Intention

Perceived behavioral control describes the degree to the perceived ease or difficulty of performing the behavior of interest (Ajzen, 1991). The individual perception of behavioral control depending on the situation. In the context of purchasing green products, there are several external factors which may limit consumers' control such as time, price, knowledge, and skill. When consumers believe that they have sufficient resources and expect only fewer obstacles, their perceived behavioral control will be stronger and the probability to purchase green products will also greater. Prior scholars have studied the effect of perceived behavioral control toward purchase intention. Study by Li et al. (2023) reported that perceived behavioral control has a significant influence on consumers behavioral intention. Based on the description above, the researcher presents the following hypothesis:

H₃: Perceived behavioral control significantly affects consumers' intention to purchase green products.

Social Media Marketing Toward Green Purchase Intention

Social media refers to online applications or platforms which aim to share information such as text, image, video to others, and it also used to gain users interaction through the content that has been shared (Qin, 2020). There are several platforms which categorized as social media such as Facebook, Instagram, Tiktok, and Whatsapp. Social media enable users to share the content with the audience who have similar interests. Study by Kuswati et al., (2024) revealed that parasocial interaction or interaction with friends and family able to influence consumers' willingness to buy. Therefore, it is crucial that social media to advertise brand's content to the consumers who have similar lifestyle (Leban et al., 2021). Managers can boost green products exposure through the assistance of influencers, product reviewers, and paid promotion in social media. In addition, social media also has multiple features which supports user personalization (e.g interactions, networks, and interpersonal relationships). Those characteristics prove that social media can be optimized as a potential marketing tools for business practices. Moreover, scholars have shown that social media marketing has a significant impact on purchase intention specifically of green products. Study by Pop & Zsuzsa (2020) reported that social media plays a significant role in the formation of consumer' attitude and subjective norms, and there is an indirect effect between social media and green products purchase intention. Naz et al. (2022) also revealed that social media marketing has a significant influence on green purchase intention. Based on the description above, the researcher presents the following hypothesis:

H₄: Social media marketing significantly affect consumers' intention to purchase green products.

Environmental Knowledge Toward Green Purchase Intention

Environmental knowledge encompasses to individuals' beliefs about the threats posed by human activities to the natural environment and their willingness to take action to protect the nature (Fransson & Gärling, 1999). It reflects an individual attachment to ecological issues and environmental protection. This suggests that individuals with higher levels of environmental concern are more inclined to purchase green products. Accordingly, the influence of consumers' environmental knowledge on green products has been studied by several researchers for decades. Hamzah & Tanwir (2021) conducted study for examine pro-environmental factors on purchasing hybrid vehicles, Siyal et al. (2021) analyzing green brand knowledge on organic products, and Dhir et al. (2021) examined the consumers' environmental knowledge on green apparel. However, the consumption of non-green product such as plastic, nature exploitation, and unrenewable energy continues to arise (Betterfuturefactory.com, 2024). Therefore, scholars are wondering whether high degree of environmental concern reinforce sustainable consumptions or not (Hamzah & Tanwir, 2021; Liu et al., 2020). Based on the description above, we endeavored to confirm the direct influence of environmental concerns on consumers' green purchase intention by proposing the following hypothesis:

H₅: Environmental knowledge significantly affects consumers' intention to purchase green products

Green Purchase Intention Toward Green Purchase Behavior

Green purchase intention is defined as consumers' willingness to prioritize environmentally friendly products over traditional ones when making purchasing decisions. Refers to TPB construct, individual beliefs when making while making decision is formed by behavioral and normative belief, which result in positive or negative evaluation. Consumers intention to act is considered has a direct effect and the best proxy to predict actual behavior (Gil-saura et al., 2020). Moreover, several studies have investigated the relationship between green purchase intention and green purchase behavior. Astarini & Pratomo (2022), Djaelani et al. (2020), and Gleny & Bernardo (2023) found a positive effect of green purchase intention on green purchase behavior. In addition, scholars also interested in investigated the mediating role of green purchase intention toward potential predictors on consumer behavior. Kamalanon et al., (2022) showed the evidence that purchase intention successfully mediate the relationship between brand image on purchase behavior. Study by Yu et al. (2020) found that purchase intention has a mediating role of the relationship between corporate trust on purchasing behavior. Thus it is crucial for marketers and brand owners to understand consumers' intention to purchase, which accordingly influence their purchasing behavior (Kamalanon et al., 2022). Hence, the researcher presents the following hypothesis:

H₆: Purchase intention toward green product positively affect green purchase behavior

H₇: Purchase intention mediates the relationship between attitude and green purchase behavior toward green product.

H₈: Purchase intention mediates the relationship between subjective norms and green purchase behavior.

H₉: Purchase intention mediates the relationship between perceived behavioral control and green purchase behavior.

H₁₀: Purchase intention mediates the relationship between social media marketing and green purchase behavior.

H₁₁: Purchase intention mediates the relationship between environmental concern and green purchase behavior.

Based on the theoretical concepts and related research described above, the research framework is shown in Figure 1 below.

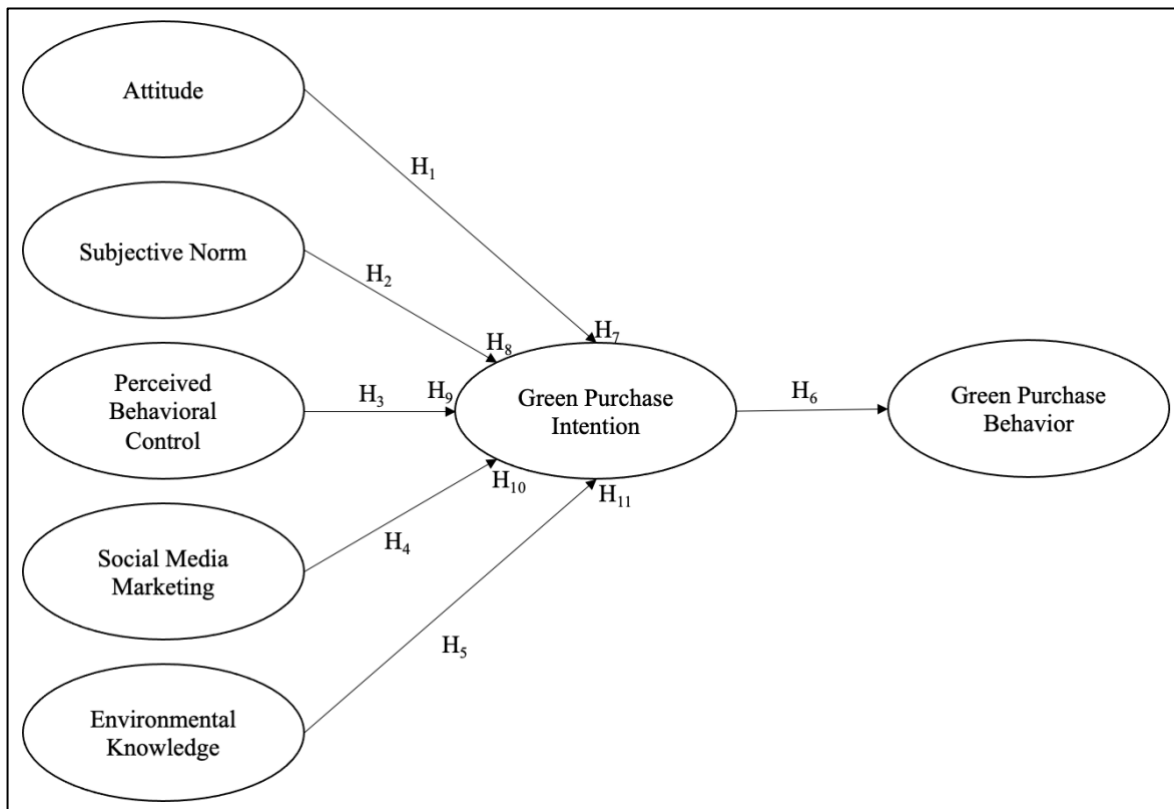


Figure 1. Research Framework

3. RESEARCH METHOD

The object of this research is environmentally friendly products which can be various form such as tumbler, totebag, stainless steel cutlery, green skincare, and green fashion. The choose of green product is due to addressing huge transition from conventional product to environmentally friendly products (Söderholm, 2020). The rise of awareness regarding nature exploitation and potential to harm the environment becomes main concern of customers in the recent years (Farzana & Jihad, 2020). The subject is Indonesian people who ever purchased environmentally friendly products.

Measurement Scale

The measurement of variables in this research have been developed from previous studies. The measurement items of attitude is adopted from Cheung et al. (2017) and Zhao et al. (2019). Measurement items of subjective norms have been adopted from Sun & Wang (2020). Then, perceived behavioral control is measured by items developed by Cheung et al. (2017) and Ding et al. (2017), while social media marketing was adopted from Sun & Wang (2020). In addition, environmental knowledge construct was measured by items developed by Kamalanon et al. (2022). Subsequently, green purchase intention was adopted the items from Sun & Wang (2020), while green purchase behavior is used measurement items which developed by Kamalanon et al. (2022). Data on table 1 portrays the construct questionnaires which aim to disseminate to the respondents. Moreover, this study was used Likert scale ranging 1 (strongly disagree) to 5 (strongly agree) to examine respondents' perception toward the variables.

Table 1. Construct items

Variable	Questionnaires	Source
Attitude	I think it is wise to buy green products as an effort to protect nature.	(Cheung et al., 2017; Zhao et al., 2019)
	I think it's a good idea to buy green products	
	I support the purchase of green products	
	I hold a supportive attitude towards purchasing green products	
	I have a positive impression of green products	
Subjective Norm	Many of the people I consider important to me support my purchase green products.	(Sun & Wang, 2020)
	Those who I perceive as providing value to me prefer that I buy green products.	
	People will have a good perception of me if I buy green products	
Perceived Behavioral Control	I have enough money and time to buy green products	(Cheung et al., 2017; Ding et al., 2017)
	I can decide whether or not to buy green products	
Social Media Marketing	I receive information from social media that green products can contribute to human health and protect nature.	(Sun & Wang, 2020)
	I feel that using social media to find information about green products that I want to buy is very fashionable.	
Environmental Knowledge	I feel knowledgeable about environmental issues	(Kamalanon et al., 2022)
	I know how to choose products and packaging that reduce the amount of waste in landfills	
	I know that I am buying products that are safe for nature.	
Green Purchase Intention	I plan to buy eco-friendly products in the future	(Sun & Wang, 2020)
	If the quality is no different from others, I would prefer to buy eco-friendly products.	
Green Purchase Behavior	I try to buy environmentally friendly products	(Kamalanon et al., 2022)
	When I choose between the same type of products, I buy products that are less harmful to the environment.	

The data was analyzed using PLS-SEM to validate the research construct model using SmartPLS software version 3. Partial Least Square (PLS) was used to perform Structural Equation Modelling (SEM) which appropriate to assess the current model. Another argument for employing PLS-SEM is its suitability for the complex model (Achmad et al., 2021). The stages including assessment of outer model and inner model. The respondents in this research were collected from Indonesian citizens who had ever purchased environmentally friendly products. The research was conducted in two cities: Surakarta and Yogyakarta, specifically from April to May 2024. Purposive sampling was used to collect targeted respondents which determined by specific criteria which had ever purchased environmentally friendly products. The length of experience ranged from two weeks ago to more than six months. The time range was used to enrich the understanding of people's perception of green products. If customers experience purchasing green products within six months, it means that green consumption trend is increasing. Total of valid respondents that have been collected amounted to 249.

4. RESULT AND DISCUSSION

The data showed in table 2 portray the demographic profile of 249 respondents who fall into the given criteria. It can be seen that 96 male were participated in this survey, while female denoted as the dominant respondents which reached 153. Subsequently, respondents who fell into 20-25 years old classification become the majority which reached 188 people or equivalent to 75.50%, while the second highest percentage witnessed to 26-30 years old and under 20 years old respondents which reached 32 (12.85%) and 17 (6.83%) people respectively. Moreover, there were 174 (73.17) respondents who hold undergraduate certificate, while 70 (24.88) of them have graduated from senior high school.

Respondents who work as private sector employee were dominated in terms of number which reached to 95 (38.15%), while occupation as student and public servant become the second and third highest number which reached to 74 (29.72%) and 35 (14.06%) respectively. In addition, most of the respondents were have around Rp 1.500.000 – Rp 3.000.000 as their monthly income which equivalent to 109 or 43.78%, while the second and third highest option was under Rp 1.500.000 and around Rp 3.000.000 – Rp 5.000.000 which amounted to 80 (32.13%) and 46 (18.47%) respectively. Furthermore, most of the respondents were purchased eco-friendly products recently. Total 91 respondents were purchased green products in one month ago, while 49 of them purchased environmentally product two weeks ago, and 68 respondents bought green products in three months ago, while the rest or amounted 41 participants purchased green product up to 6 months ago.

Table 2. Demographic Data of The Respondents

Demographic Variable	Frequency	Percentage (%)
Gender		
Male	96	38.55
Female	153	61.45
Age		
< 20 years old	17	6.83
20 – 25 years old	188	75.50

Demographic Variable	Frequency	Percentage (%)
26 – 30 years old	32	12.85
31 – 35 years old	2	0.80
36 – 40 years old	0	0.00
> 40 years old	10	4.02
Education Background		
Senior High School	70	28.11
Undergraduate	174	69.88
Graduate	4	1.61
Doctoral	1	0.40
Occupation		
Students	74	29.72
Private Sector Employee	95	38.15
Public Servant	35	14.06
Entrepreneur	35	14.06
Others	10	4.02
Monthly Income (Currency: Indonesian Rupiah)		
< Rp 1.500.000	80	32.13
Rp 1.500.001 – Rp 3.000.000	109	43.78
Rp 3.000.001 – Rp 5.000.000	46	18.47
Rp 5.000.001 – Rp 7.000.000	7	2.81
> Rp 7.000.001	7	2.81
When was the last time you bought an eco-friendly product?		
2 weeks ago	49	19.68
1 month ago	91	36.55
3 months ago	68	27.31
6 months ago	13	5.22
More than 6 months ago	28	11.24

The data was analyzed using PLS-SEM to validate the research construct model using SmartPLS software version 3. Partial Least Square (PLS) was used to perform Structural Equation Modelling (SEM) which appropriate to assess the current model. Another argument for employing PLS-SEM is its suitability for the complex model (Achmad et al., 2021). The stages including assessment of outer model and inner model.

Outer Model Assessment

The assessment of outer model including validity and reliability. Validity analysis was evaluated by looking at the value of outer loading, while reliability analysis was measured by examined the value of Composite Reliability (CR) (Achmad et al., 2021). Data shows in table 3 depicted the outer loading value of all questionnaires item which indicated above threshold value of 0.7, which categorized as valid. In terms of reliability, both cronbach's alpha and composite reliability value considered greater than 0.6, which represent reliable or consistent. Moreover, AVE values of all constructs in this research are greater than 0.5, which also approved to the convergent validity construct (Achmad et al., 2021). VIF value was evaluated to examine multicollinearity, and all constructs in this research have VIF value ranged from 1.000 to 1,889 or below 3, which considered acceptable (Kock, 2015).

Table 3. Construct Validity

Constructs	Validity			Reliability		
	Items	Outer Loadings	VIF	Chonbach's Alpha	Composite Reliability	AVE
Attitude	A1	0.833	1.889	0.842	0.887	0.613
	A2	0.737				
	A3	0.853				
	A4	0.707				
	A5	0.775				
Subjective Norm	SN1	0.833	1.413	0.739	0.850	0.654
	SN3	0.819				
	SN5	0.773				
Perceived Behavioral Control	PBC1	0.850	1.567	0.623	0.841	0.726
	PBC3	0.854				
Social Media Marketing	SMM1	0.905	1.864	0.735	0.882	0.789
	SMM3	0.872				
Environmental Knowledge	EK3	0.856	1.417	0.610	0.837	0.719
	EK4	0.841				
Green Purchase Intention	GPI1	0.903	1.000	0.756	0.891	0.804
	GPI5	0.890				
Green Purchase Behavior	GPB1	0.906	0.719	0.876	0.779	
	GPB3	0.859				

In order analyzing discriminant validity, looking at Heterotrait-Monotrait Ratio (HTMT) was adopted with threshold below 0.9 to confirm convergent and discriminant validity (Henseler et al., 2009). The result shows on table 4 indicated that all constructs are establish convergency and discriminant valid.

Table 4. Discriminant Validity with Heterotrait-Monotrait Ratio (HTMT)

	Attitude	Environmental Knowledge	Green Purchase Behavior	Green Purchase Intention	Perceived Behavioral Control	Social Media Marketing	Subjective Norm
Attitude							
Environmental Knowledge	0.336						
Green Purchase Behavior	0.670	0.664					
Green Purchase Intention	0.728	0.567	0.902				
Perceived Behavioral Control	0.694	0.665	0.717	0.689			
Social Media Marketing	0.773	0.606	0.825	0.844	0.677		
Subjective Norm	0.503	0.647	0.509	0.462	0.566	0.536	

Subsequently, to examine model accuracy and predictive relevance, the value of R^2 was evaluated. The result revealed that R^2 value of green purchase intention was 0.494 and R^2 value of green purchase behavior was 0.450. These results provide a proper explanation of the influence of independent variable toward dependent variable.

Inner Model Assessment

Inner model assessment was used to examined hypothesis testing. Bootstrapping approach was applied with 500 subsamples to analyze hypothesis testing. 500 sample size was chosen due to the directional hypothesis method, which required one-tailed tests. According to 500 samples bootstrapping, the regression constrains are not upon a sample evaluator, facilitating every hypothesis's t-value calculation and the findings' generality (Cheung & Lee, 2012). The relationship considered has significant effect if p-value is lower than 0.05.

Data in table 5 shows the direct and indirect impact of the relationship between independent variables and dependent variables. The information given in table 5 shows that attitude has a significant effect on green purchase intention ($p = 0.000$), which supported H_1 . However, subjective norm portrays insignificant effect toward green purchase intention with p value 0.991, which means that H_2 is not supported. Meanwhile perceived behavioral control has a significant effect on green purchase intention with p value 0.039, which is supported H_3 . On the other side, social media marketing and environmental knowledge become essentials predictor which has significant influence on green purchase behavior with p value 0.000 and 0.017 respectively, which means H_4 and H_5 is supported. Result in table 5 also revealed significant impact of green purchase intention toward green purchase behavior with p value 0.000 or lower than 0.05, which is supported H_6 .

In addition, we also assess on the mediating effect of green purchase intention. Information provided in table 5 shows that green purchase intention has meaningful role as mediating variable between the relationship of attitude, perceived behavioral control, social media marketing, and environmental knowledge toward green purchase behavior with p-value 0.000, 0.047, 0.000, and 0.017 consecutively, which means that H_7 , H_9 , H_{10} , and H_{11} is supported. Meanwhile, green purchase intention didn't have mediating role between relationship of subjective norm on green purchase behavior with p value 0.991, which means that H_8 classified as not able mediate.

Table 5. Construct hypothesis

	Hypothesis	Path Coefficient	Standard Deviation	T Value	P Value	Decision
H_1	Attitude → Green Purchase Intention	0.279	0.068	4.074	0.000	Supported
H_2	Subjective Norm → Green Purchase Intention	0.001	0.056	0.011	0.991	Not Supported
H_3	Perceived Behavioral Control → Green Purchase Intention	0.116	0.056	2.071	0.039	Supported

	Hypothesis	Path Coefficient	Standard Deviation	T Value	P Value	Decision
H ₄	Social Media Marketing → Green Purchase Intention	0.353	0.070	5.014	0.000	Supported
H ₅	Environmental Knowledge → Green Purchase Intention	0.133	0.055	2.401	0.017	Supported
H ₆	Green Purchase Intention → Green Purchase Behavior	0.671	0.041	16.408	0.000	Supported
H ₇	Attitude → Green Purchase Intention → Green Purchase Behavior	0.187	0.046	4.075	0.000	Full Mediated
H ₈	Subjective Norm → Green Purchase Intention → Green Purchase Behavior	0.000	0.038	0.011	0.991	Not Able to Mediate
H ₉	Perceived Behavioral Control → Green Purchase Intention → Green Purchase Behavior	0.078	0.039	1.993	0.047	Full Mediated
H ₁₀	Social Media Marketing → Green Purchase Intention → Green Purchase Behavior	0.237	0.052	4.549	0.000	Full Mediated
H ₁₁	Environmental Knowledge → Green Purchase Intention → Green Purchase Behavior	0.089	0.037	2.393	0.017	Full Mediated

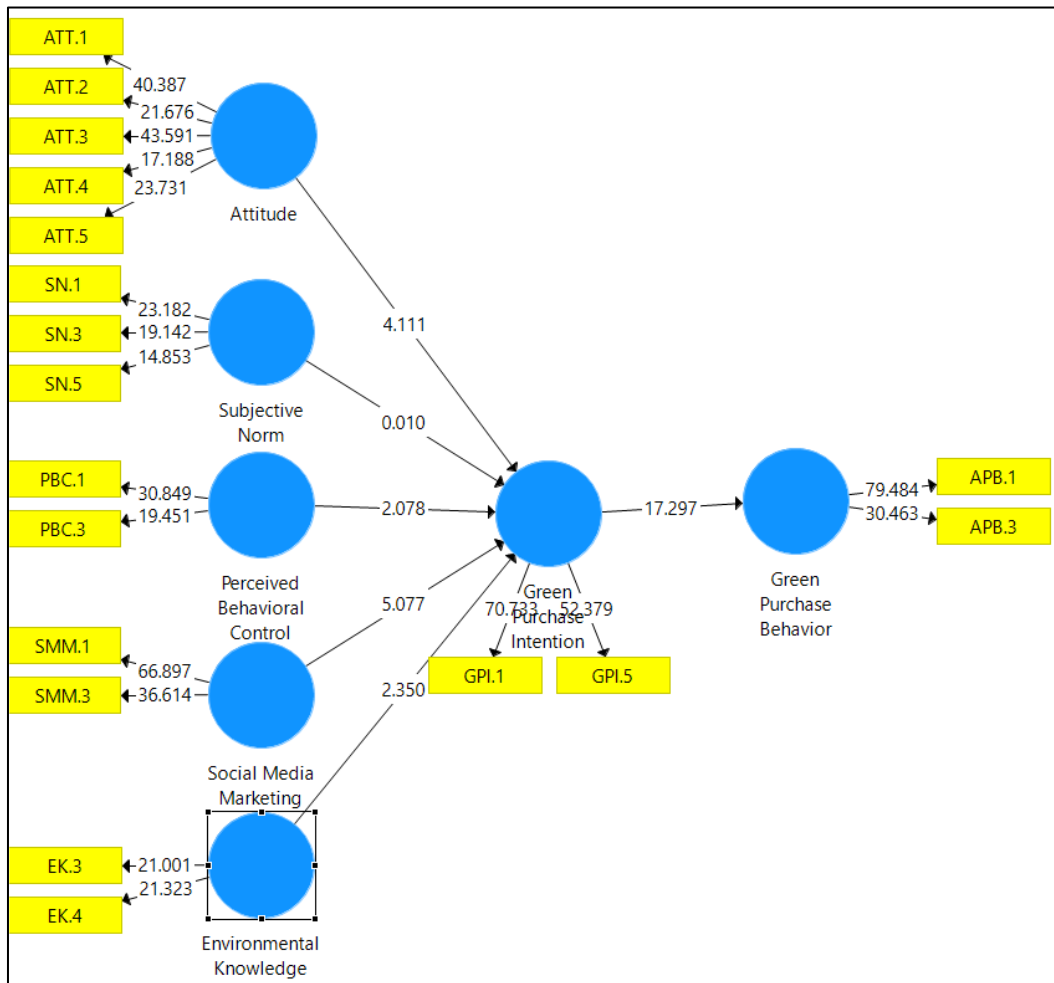


Figure 2. PLS Output of the Inner Model

The current research explored consumers purchase behavior of environmentally friendly products in Indonesia. Results in this study indicated that attitude positively affect consumers' intention to purchase green products. This means that people positive attitude will have greater willingness to buy green products. The finding is relevant to the study conducted by [Correia et al. \(2023\)](#) and [Soliman \(2021\)](#) that revealed that consumers' positive attitude influenced their intention to buy green products. Considering that the majority of respondents in this research were youth aged from 20-25 years old or equivalent to 75.5 percent, it is not surprising that youth generations are more concern on what will be happen in the future. [Syahlani et al., \(2022\)](#) also stated that customers comfort in influencing buying decision.

However, subjective norm considered don't have significant effect on consumers intention to purchase green products. The results indicated that consumers perceived social pressure is not become a strong predictor to push their intention to buy. This may happen due to willingness to engage in sustainable consumption sometimes not comes from their friends or surroundings, but from their personal belief. The finding align with research by [Kamalanon et al. \(2022\)](#) which stated subjective norm do not have significant impact on purchase intention. Moreover, the respondents in this study also were predominantly by

students (29.7 percent) and private sector employees (38 percent), which means that social pressure is no longer relevant since the consequences of consuming green products are to improve their health.

Subsequently, perceived behavioral control revealed significant effect on green purchase intention, which means that consumers have sufficient resources to purchase green products. Some respondents said “I have enough money and time to buy green products”. Even the price of green products is sometimes higher than the substitutions, consumers tend to sacrifice little bit to buy environmentally products for some reasons. It proved that the respondents in this research had high purchasing power with monthly income ranging from Rp 1.500.001 – Rp 3.000.000 (43.8 percent). This finding is consistent with study conducted by [Palomino & Barcellos-Paula \(2024\)](#) which stated perceived behavioral control has significant influence to consumers purchase intention. For preserving environment, it is worth to allocate certain amount of budget for purchase green products.

In addition, social media marketing and environmental knowledge has significant effect on consumers intention to purchase green products. Increasing education and massive advertisement activity to promote green products on social media can improve willingness consumers' intention to buy. [Muadzin & Lenggogeni \(2021\)](#) also stated that consumers with high awareness toward brand will have higher probability to purchase products. Hence, manufacturers should be undertaken to promote green product through social media, which emphasize on sustainable consumption and lifestyle practice. This finding is align with research conducted by [Naz et al. \(2022\)](#) which stated that social media marketing has significant influence on purchase intention. Also, if consumers have high environmental concern, they will have more willingness to prefer choose environmentally friendly products. It is also should be highlighted by manufacturers to create meaningful contribution to conserve the nature. This finding is align with study by [Dhir et al. \(2021\)](#) and [Siyal et al. \(2021\)](#) that environmental knowledge has significant effect on influencing purchase intention.

Furthermore, this research affirms that consumers' intention to purchase green product significantly influence their purchasing behavior. It is important to note that manufacturers should focus to create consumers' willingness to buy green product in order to increase the rate of perform their actual behavior of purchasing green products. Consumers intention to purchase also proved mediating role for attitude, social media marketing, and environmental knowledge toward purchase behavior.

The contribution of this research can benefit not only for manufacturers, marketers, and regulators, but also for theoretical aspects. Manufacturers should pay attention to create specific target market by looking the potential consumers group segmentation. For example, it is substantial for green manufactures to target consumers who have higher income and more aware on environmental consequences. If manufacturers want to improve the sales via social media, they can increase educative content (photo & video) to emphasis their action toward nature. The advertisement should be creative, attractive, and educative related to companies' contribution to conserve the planet. In addition, government also has a role to promote the consumption of green products. Government regulation is powerful to shape

consumers perception and behavior to purchase environmentally friendly products. Financial subsidies also essential to encourage manufacturers to develop green products.

Moreover, this study contributed to the existing literature by proposing the extended theory of planned behavior model which investigate consumers' purchasing behavior on green products. First, while most prior studies on TPB examined that social media marketing acts as an essential predictor of attitude and subjective norm [Pop & Zsuzsa \(2020\)](#) and [Sun & Wang \(2020\)](#), our finding revealed that social media marketing directly affect green purchase intention. Apart from TPB construct which involved attitude, subjective norm, and perceived behavioral control, environmental concern and social media marketing is some of impactful antecedents of consumers' intention purchasing green products. Notable, perceived behavioral control do not directly impact on green purchase intention, but it indirectly partially influence future purchase behavior via mediating role of green purchase intention or the relationship approached the significant level ($p = 0,078$). Also, consumptions of green products are considered as personal, the finding in this research proved that social pressure cannot affecting consumers' willingness to purchase or act.

5. CONCLUSION AND SUGGESTION

This study investigated the factors which affect consumers purchasing intention toward green products based on Theory of Planned Behavior (TPB). We extended TPB framework by incorporating social media marketing and environmental knowledge. The findings showed that attitude, social media marketing, and environmental knowledge have significant influence on green purchase intentions. Meanwhile, subjective norm and perceived behavioral control doesn't have impactful relationship to influence consumers' willingness to purchase environmentally friendly products. Moreover, social pressure proved insignificant effect on personal purchase intention of green products, so the reason to buy is related to personal intention instead of external influence. Since consumers' environmental knowledge significantly related to purchase intention.

The findings in this study proved substantial suggestion for marketers, business owners, and government to promote the effect of environmentally friendly products. It is crucial to focus on promoting brand or product's green image. Since promoting green campaign in social media is meaningful to shape consumers' perception and behavior on sustainability consumption, it is essential for brand owners continuously produce educative content which could enhance people awareness on the importance of green product consumption. In addition, to enhance people actual behavior toward green product, the government should provide financial subsidies to encourage manufacturers developing green products.

Although this study has a few interesting conclusions and implications both on theoretical and practical aspect, it is important to emphasize the limitations in this study. First, this research did not pick any specific green products as object. Future studies could investigate specific any green products or compare between different green products. Second, the model of this research only covered 50 percent possible variable which affect green purchase intention. Future studies could investigate other potential variables such as price consciousness, green brand image, moral norms, etc. In terms of mediating role, future

research also could consider other variables such as price consciousness and perceived green value.

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