



Understanding the Drivers of Green Product Purchase Intentions: An Application of the Theory of Planned Behavior in a Developing Country Context

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Abstract. The increasing awareness of environmental sustainability has led to the growth of green product marketing worldwide. This study investigates the influence of attitude, subjective norms, and perceived behavioral control on purchasing decisions for green products among undergraduate students in Makassar, Indonesia, using the Theory of Planned Behavior (TPB) as a theoretical framework. A quantitative approach was employed, involving 100 participants, and data was analyzed using multiple regression analysis. Findings indicate that all three factors—attitude, subjective norms, and perceived behavioral control—positively and significantly influence green product purchase decisions, accounting for 69.5% of the variance. This underscores the importance of psychological and social influences on consumer behavior in green marketing. The study contributes to the literature on green marketing strategies in developing countries and suggests that businesses should continue to enhance eco-friendly product awareness and promote sustainability value. Future research should include a larger, more diverse sample to ensure broader applicability.

Keywords: Attitude, Subjective Norm, Perceived Behaviour Control, Purchase Decision.

1 Introduction

Global environmental changes have become one of the most pressing issues of this century, with problems such as pollution, greenhouse gas emissions, and the increasing volume of waste, particularly plastic waste, threatening the sustainability of ecosystems worldwide. As awareness of these issues grows, the concept of "Go-Green" has gained widespread attention as part of global efforts to reduce the negative impact on the environment [1]. In Indonesia, plastic waste pollution has become a major threat, with the country ranked as the second-largest producer of plastic waste globally, after China [2]. The production of plastic, which consumes up to 12 million barrels of oil annually, significantly contributes to global environmental degradation.

Companies worldwide have begun to recognize the importance of adopting sustainable strategies in their business operations, including reducing plastic use and transitioning to eco-friendly products [3]. One concept gaining traction in addressing this issue is the circular economy, which aims to optimize resource usage by

minimizing waste and extending the product life cycle. However, the implementation of the circular economy faces numerous challenges, such as the lack of adequate recycling infrastructure and the difficulty of shifting consumer habits entrenched in conventional consumption patterns [4].

The business sector, particularly small and medium enterprises (SMEs), plays a crucial role in supporting these environmental initiatives. The adoption of the Green Product concept in companies' Corporate Social Responsibility (CSR) programs has become a strategic step in promoting environmental sustainability. The Green Product concept not only enhances corporate image but also supports long-term business sustainability [5]. However, market acceptance of eco-friendly products still faces challenges, one of which is the belief that consumers may not yet be ready to embrace such changes.

The Theory of Planned Behavior (TPB) by Icek Ajzen provides a robust theoretical framework for understanding the factors influencing eco-friendly product purchasing decisions [6]. This theory posits that consumer behavior is driven by three key factors: attitude, subjective norms, and perceived behavioral control. Other studies reinforce that TPB is an effective model for predicting green product purchasing decisions [7].

In this context, previous research has shown that factors such as social media, perceived consumer effectiveness (PCE), and product knowledge play an important role in influencing green product purchasing decisions [8]. Additionally, studies have demonstrated that subjective norms, particularly from the social environment, also play a role in shaping the intention to purchase green products [9].

Although much research has been conducted on the adoption of eco-friendly products and consumer behavior towards Green Products, there is still a gap in understanding how these factors interact in the context of the circular economy in developing countries such as Indonesia. Research in India showed that attitude and subjective norms significantly influence green product purchase intention, while studies in Thailand emphasized the importance of social norms in shaping purchasing intentions [7,9]. However, these studies were conducted in countries with better infrastructure, while research in Indonesia, particularly in Makassar, is still limited. Therefore, there is a need to further explore how factors such as attitude, subjective norms, and perceived behavioral control influence green product purchase intention in Indonesia.

The primary objective of this study is to explore the influence of attitude, subjective norms, and perceived behavioral control on Green Product purchase decisions in Makassar. The study also aims to identify the main challenges faced by companies in marketing eco-friendly products and how effective marketing strategies can be designed to stimulate green product purchases in the region.

This research is expected to make a significant contribution to the literature on green marketing, particularly in the context of developing countries such as Indonesia. By understanding the factors that influence eco-friendly product purchasing decisions, the findings of this study can help businesses and policymakers design more effective strategies to promote Green Products. Additionally, this research can provide insights for the public to raise awareness of the importance of sustainable consumption, thereby supporting the creation of a healthier and more environmentally friendly world.

2 Literature Review

2.1 Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) is a widely used theoretical framework for understanding and predicting human behavior, particularly in purchasing decisions. Developed by Ajzen, TPB integrates three key components: attitude, subjective norms, and perceived behavioral control. The theory assumes that the intention to perform a behavior is the primary determinant of actual behavior, and this intention is influenced by an individual's attitude toward the behavior, perceived social pressure (subjective norms), and perceived control over the behavior [6,10].

In the context of this research, TPB provides a strong theoretical foundation for understanding how consumers form intentions to purchase Green Products. A study found that TPB effectively predicts consumer decisions in selecting eco-friendly products [7]. Thus, TPB is highly relevant for examining how attitudes, social norms, and behavioral control influence Green Product purchase intentions in Indonesia.

2.2 Green Product and Green Marketing

A Green Product refers to an environmentally friendly product that is non-toxic and recyclable. Green Products are designed to reduce negative environmental impacts through the use of safe materials and responsible production methods [11]. In the marketing context, Green Marketing involves strategies to promote products that are not only eco-friendly but also provide added value to consumers through sustainable approaches [12]. Green Marketing plays a crucial role in building consumer awareness and preference for environmentally friendly products.

A study found that components such as eco-labeling and green packaging have a significant positive influence on consumer behavior in choosing Green Products [13]. In Indonesia, the application of Green Marketing is growing, particularly in industries with a greater environmental focus, such as cosmetics and electronics. However, the adoption of Green Products among consumers is still hindered by a lack of knowledge and clear perceptions of their benefits, highlighting the need for more intensive and targeted marketing strategies.

2.3 Attitude, Subjective Norms, and Perceived Behavioral Control

In TPB, attitude refers to a positive or negative evaluation of a particular behavior, which in this context refers to the decision to purchase Green Products. Positive attitudes towards the environment and sustainability can encourage consumers to choose eco-friendly products. Research shows that consumers' attitudes toward Green Products significantly influence their purchasing decisions [14].

Subjective norms refer to an individual's perception of social pressure to perform or not perform a particular action. According to Ajzen, individuals are more likely to engage in a behavior if they believe that important people around them support it [10]. A study found that social norms play a critical role in influencing green product purchase intentions among consumers in India and Thailand [9].

Perceived behavioral control refers to an individual's perception of their ability to perform a certain action. The higher the perceived behavioral control, the more likely consumers are to make a purchase. Research found that perceived behavioral control significantly influences Green Product purchasing decisions [15]. They demonstrated that when consumers feel they have sufficient access to and knowledge of green products, they are more likely to make a purchase.

2.4 Purchase Decisions

Purchase decisions are the result of consumers' evaluation of alternatives before deciding to buy a particular product. In the context of Green Products, purchasing decisions are greatly influenced by consumers' attitudes, subjective norms, and perceived behavioral control. A study shows that environmental awareness and the perceived benefits of green products play a significant role in encouraging consumers to choose these products [13]. The study also highlights that effective Green Marketing can help consumers overcome obstacles in the purchasing decision, particularly in terms of price and product availability.

Based on the TPB framework and the existing literature, this study proposes the following main hypotheses:

H1: Attitude has a significant positive influence on Green Product purchase decisions.

H2: Subjective norms have a significant positive influence on Green Product purchase decisions.

H3: Perceived behavioral control has a significant positive influence on Green Product purchase decisions.

H4: Attitude, subjective norms, and perceived behavioral control have a significant positive influence on Green Product purchase decisions simultaneously.

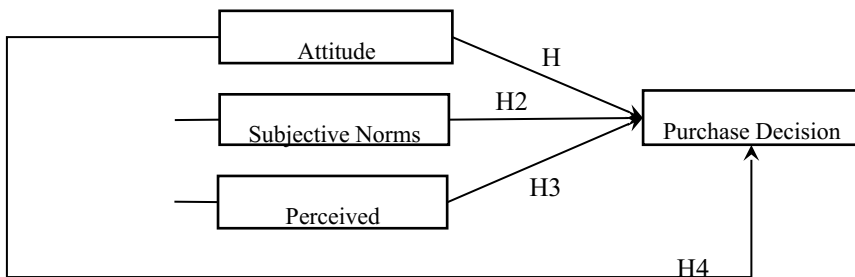


Figure 1. The hypothetical model of variables

3 Method

3.1 Research Design

This study utilizes a quantitative research design, employing survey methods to collect and analyze data. The objective of this research is to examine the influence of

attitude, subjective norms, and perceived behavioral control on purchase decisions regarding Green Products. A structured questionnaire will be distributed to respondents, and the data collected will be analyzed using statistical techniques such as correlation and regression analysis. The survey is designed with closed-ended questions and analyzed using SPSS software to test the research hypotheses.

3.2 Participants and Data Collection

The target population for this study includes undergraduate students from the Faculty of Economics and Business, Hasanuddin University, in Makassar, Indonesia. These students are chosen because they are considered to be active consumers with decision-making power related to Green Products. The population size consists of 1,273 students, and a sample size of 100 respondents was determined using the Slovin formula, applying a 10% margin of error [16].

The sampling technique employed in this study is purposive sampling, where the selection of participants is based on specific criteria, including being an active student and having experience in purchasing Green Products. Additionally, snowball sampling was applied, where selected participants were encouraged to refer others who met the criteria. The survey was distributed online via Google Forms, and responses were collected over the course of several weeks. The study ensures ethical considerations by maintaining respondent confidentiality and voluntary participation.

3.3 Data Analysis

As this research follows a quantitative design, data analysis was conducted using descriptive statistics and multiple regression analysis to explore the relationships between the variables. Descriptive statistics were used to analyze the respondents' characteristics, including the mean, standard deviation, skewness, and kurtosis of the responses. All items in the questionnaire were measured using a 5-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree."

To evaluate the relationships between variables, the study employed multiple linear regression to test the influence of the independent variables—attitude, subjective norms, and perceived behavioral control—on the dependent variable, which is purchase decisions. The regression equation used is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon \quad (1)$$

Where:

Y = Purchase Decisions

XX_1 = Attitude

XX_2 = Subjective Norms

XX_3 = Perceived Behavioral Control

α = Constant

$\beta_1, \beta_2, \beta_3$ = Coefficients of the independent variables

ϵ = Error term

The study also performed tests for normality, reliability, and validity to ensure the robustness of the model. Normality tests were conducted using Kolmogorov-Smirnov, and reliability was assessed using Cronbach's Alpha. A value of Cronbach's Alpha

above 0.7 was considered reliable for all constructs [16]. Lastly, hypothesis testing was done using T-tests to assess the significance of individual variables, and an F-test was performed to test the overall model significance.

The results from the regression analysis, including the coefficients of determination (R^2) and p-values, were used to determine the impact of each independent variable on the dependent variable. All findings are presented in the results section of this study, along with a discussion on their implications for Green Product marketing and consumer behavior in Indonesia.

4 **Results and Discussion**

4.1 **Analysis of Respondent Characteristics**

The characteristics of respondents in this study, based on primary data collected through a structured questionnaire, provide a profile of their demographics and behaviors. In terms of gender, 60% of the respondents are female, while 40% are male, indicating a majority of female participants. Regarding age, 30% of respondents are between 17 and 20 years old, whereas 70% are within the 21 to 23-year-old range. Most respondents are enrolled in the Management program (55%), followed by 30% in Accounting and 15% in Economics. The cohort distribution reveals that 65% of participants belong to the 2020 cohort, 25% are from the 2021 cohort, and 10% are from the 2022 cohort, with the largest group from the 2020 cohort. In terms of their purchasing behavior, 38% of respondents have bought Green Products once, 30% have made purchases 2-4 times, and 32% have purchased more than 4 times, demonstrating that a substantial portion of the respondents are repeat buyers of Green Products.

4.2 **Descriptive Analysis**

The descriptive analysis presents an overview of respondents' attitudes (X1), subjective norms (X2), perceived behavioral control (X3), and purchase decisions (Y). This section begins by defining the score ranges for the Likert scale used in the study, followed by the analysis of each variable.

Table 1. Descriptive Analysis of Attitude Variable

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	%	Score
X1.1	0	0	5	50	45	88	440
X1.2	0	0	10	60	30	84	420
Average						86	430

Based on Table 1, respondents' attitudes (X1) reveal that the majority exhibit a highly positive stance towards purchasing Green Products. For the first statement, 45% of respondents strongly agreed, and 50% agreed, resulting in an overall score of 88%. For the second statement, 30% of respondents strongly agreed, while 60%

agreed, yielding an overall score of 84%. On average, the approval rate is 86%, placing this variable in the "Very High" category with a total score of 430.

Table 2. Descriptive Analysis of Subjective Norm Variable

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	%	Score
X2.1	0	5	15	55	25	80	400
X2.2	1	4	20	50	25	78	390
Average						79	395

Based on Table 2, respondents' feedback on the Subjective Norms (X2) variable indicates that the majority perceive social norms as influential in their decision to purchase Green Products. For the first statement, 25% of respondents strongly agreed, and 55% agreed, resulting in a total score of 80%. For the second statement, 25% strongly agreed, and 50% agreed, yielding a total score of 78%. The average approval rate across both statements is 79%, placing this variable in the "High" category with a total score of 395.

Table 3. Descriptive Analysis of Perceived Behavioral Control Variable

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	%	Score
X3.1	0	0	8	35	57	91	455
X3.2	0	0	12	45	43	86	430
Average						88.5	443

According to Table 3, respondents' agreement level regarding the Perceived Behavioral Control variable shows that 57% of respondents strongly agreed, and 35% agreed with the first statement, yielding a total score of 91%. For the second statement, 43% strongly agreed, and 45% agreed, resulting in a score of 86%. The average approval rate for this variable is 88.5%, placing it in the "Very High" category with a total score of 443.

Table 4. Descriptive Analysis of Purchase Intention Variable

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	%	Score
Y.1	0	0	0	85	15	84	420
Y.2	0	0	28	60	12	75	375
Y.3	0	0	22	78	0	76	389
Y.4	0	0	1	99	0	79	395
Average						78.5	393

Regarding the Purchase Decisions variable illustrated in Table 4, 15% of respondents strongly agreed, and 85% agreed with the first statement, resulting in a total score of 84%. For the second statement, 12% strongly agreed, and 60% agreed, yielding a score of 75%. The third statement shows that 78% of respondents agreed,

while 22% remained neutral, with a total score of 76%. The final statement reveals that 99% of respondents agreed, with a total score of 79%. The average approval rate is 78.5%, placing this variable in the "High" category with a total score of 393.

Table 5. The Result of the Validation Test

Variable			Pearson Item Correlation (R- Hitung)	R-Table (N=100)	Explanatio n
Attitude (X1)			0.855	0.195	Valid
			0.732		Valid
Subjective Norms (X2)			0.809		Valid
			0.765		Valid
Perceived Behavioral Control (X3)			0.89		Valid
			0.812		Valid
Purchase Decision (Y)			0.712		Valid
			0.735		Valid
			0.652		Valid
			0.804		Valid

The validity test results from Table 5 indicate that all questionnaire items for the variables Attitude (X1), Subjective Norms (X2), Perceived Behavioral Control (X3), and Purchase Decisions (Y) are valid, as their Pearson Item Correlation (R-Value) exceeds the critical R-Table value of 0.195. Specifically, the correlations for Attitude items range from 0.732 to 0.855, Subjective Norms range from 0.765 to 0.809, Perceived Behavioral Control ranges from 0.812 to 0.890, and Purchase Decisions range from 0.652 to 0.804. These results confirm that all items accurately measure the intended constructs and are suitable for further analysis.

Table 6. The Result of the Reliability Test

Variable			Cronbach's Alpha	Standard Alpha	Explanatio n
Attitude (X1)			0.83	0.7	Reliable
			0.805		Reliable
Subjective Norms (X2)			0.826		Reliable
Perceived Behavioral Control (X3)			0.826		Reliable
Purchase Decision (Y)			0.843		Reliable

Based on the reliability test results in Table 6, the Cronbach's Alpha values for all variables—Attitude (X1), Subjective Norms (X2), Perceived Behavioral Control (X3), and Purchase Decisions (Y)—exceed the reliability threshold of 0.70. This indicates that the instruments used in the study are reliable, meaning they consistently measure the intended variables and can be trusted for further analysis.

4.3 Hypothesis Testing Results

Table 7. The Result of the T-Test

Variable	B	T-	T-	Significa	Conclu
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	(Regression Coefficient)	value	table	ncc	sion
Attitude (X1)	0.288	9.497	1.661	<0.001	Significant
Subjective Norms (X2)	0.295	12.063	1.661	<0.001	Significant
Perceived Behavioral Control (X3)	0.058	2.047	1.661	0.043	Significant

Table 7 illustrates that the T-test analysis showed that all independent variables—Attitude (X1), Subjective Norms (X2), and Perceived Behavioral Control (X3)—significantly influenced Purchase Decisions (Y). The t-values for Attitude (9.497), Subjective Norms (12.063), and Perceived Behavioral Control (2.047) were all greater than the t-table value (1.661) with significance levels below 0.05, indicating a significant positive effect on purchase decisions.

Table 8. The Result of the F-Test

Model	Sum of Squares	Df	Mean Square	F-value	Significance	Conclusion
Regression	23.878	3	7.959	76.312	<0.001	Significant
Residual	10.013	96	0.104			
Total	33.891	99				

Table 8 provides an overview of the F-test, which demonstrated that the overall model was significant, with an F-value of 76.312 exceeding the F-table value (2.70) and a significance level of 0.000 (<0.05). This confirms that Attitude, Subjective Norms, and Perceived Behavioral Control have a simultaneous and significant effect on Purchase Decisions.

Table 9. The Determination Coefficient Test Result

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.839	0.705	0.695	0.323

Table 9 above depicts the coefficient of determination test, which revealed an adjusted R-square value of 0.695, indicating that 69.5% of the variance in Purchase Decisions is explained by the independent variables, while the remaining 30.5% is influenced by factors not included in this study.

4.4 Discussion

Based on the data analysis, the findings of this study demonstrate significant relationships between the independent variables—Attitude (X1), Subjective Norms (X2), and Perceived Behavioral Control (X3)—and the dependent variable, Green Product Purchase Decision (Y). The regression analysis indicates that all variables positively and significantly influence purchase decisions, as confirmed by the T-test results, where each independent variable showed a t-value greater than the critical t-table value, with significance levels below 0.05. The R-squared value of 0.695

indicates that 69.5% of the variance in purchase decisions can be explained by these variables, while the remaining 30.5% may be attributed to other factors not included in this study. These results are consistent with prior research by Nguyen et al. [17] and Nekmahmud et al. [18], which highlight the importance of attitudes, social norms, and perceived control in shaping consumer intentions to purchase green products. The findings suggest that positive attitudes toward environmental sustainability, normative social influences, and the perceived ability to overcome barriers are critical drivers of green product purchasing behavior, emphasizing the psychological and social factors at play in consumer decision-making processes.

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