

The Influence of Green Trust, Ecological Knowledge, Ecological Concern, and Green Attitude on Intention to Buy Green Products in Yogyakarta

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ABSTRACT

Changes in people's lifestyles towards environmentally responsible purchasing behavior have driven demand for more environmentally friendly products. This research focuses on examining green product purchase intentions which are influenced by attitudes, beliefs, ecological knowledge, and ecological concern. The respondents for this research were 150 people who had never bought green products, knew about green products, and lived in Yogyakarta. This research has the novelty of expanding the TPB model by adding three variables, namely trust, ecological knowledge and ecological concern. TPB is frequently utilized in studies on environmentally conscious behavior, but there are still gaps. The research results of several previous researchers still show inconsistent results concerning the influence of trust, ecological knowledge, and ecological concern on attitudes towards purchasing intentions of green products. Therefore, this research tries to resolve several research gaps that arise from several variables that are built to predict purchasing intentions for green products, as well as understand consumer preferences correctly. This research provides a practical contribution to companies regarding better insight into the factors that influence green product purchase intentions, so companies can understand consumer preferences correctly and allowing for the development of more effective marketing strategies in promoting green products.

Keywords: Green Trust, Ecological Knowledge, Ecological Concern, Intention to buy Green Products.

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1. INTRODUCTION

Growing environmental concern among consumers around the world has driven demand for more environmentally friendly products (Dhir, et al., 2021). The government emphasized economic development and environmental protection to further achieve sustainable development (Cao, et al., 2023). The global COVID-19 pandemic of 2020 has fundamentally altered peoples' lifestyles in favoring green products and green activities. In Indonesia, Amelia et al (2022) have noticed that since the beginning, even until now, COVID-19 has also affected many aspects of Indonesian lifestyle. Many

changes have occurred in society, starting with how people meet and clean themselves, even people's consumption patterns have changed. Considering that poor eating habits can increase a person's vulnerability to the virus itself, people typically choose healthier foods (Bracale & Vaccaro, 2020). Increasing numbers of people are buying more green products because of comprehensive theoretical study framework that addresses changes in people's attitudes toward life, environmental concerns, and food safety incidents (Prentice et al., 2019; Teng & Lu, 2016). The activities of governments, organizations and individuals are responsible for reducing environmental damage. Consumers also have an important role in reducing risks to the environment which should not be ignored (Dietz et al., 2009). Green buying behavior has emerged as a new area of consumer research due to shifts in consumer purchasing patterns (Zhao & Zhong, 2015).

Theory of Planned Behavior (TPB) Ajzen (1991) is the foundation for this study because according to Xu, et al., (2020) then Qi and Ploeger (2021), TPB has been extensively utilized to comprehend individual behavior, particularly behavior that is pro-environment, and numerous studies have demonstrated its efficacy. Considering the effectiveness of existing TPB variables, regarding purchase intention of green products, this study follows previous research and combines factors: green trust, ecological knowledge, and ecological concern in influencing attitudes and intentions to buy green products. The addition of some factors in the TPB model is expected to extend a comprehensive theoretical research framework in exploring consumer intentions to buy green products.

There are several gaps that can be filled with this research. First, pertinent to how green trust affects green attitude. When it came to the impact of green trust and green attitude, the findings of earlier studies were still inconsistent. Dhir, et al., (2021); Ricci, Banterle, and Stranieri (2018); Yu, et al., (2021) show that green trust has a direct effect on attitudes, but Carfora et al., (2019); Yu, et al., (2021) show that green product purchase intentions and behavior are directly impacted by trust. Second, related to ecological knowledge's impact on green attitudes. Kollmuss and Agyeman (2002) show that several studies that have been conducted regarding the relationship between knowledge, attitudes and behavior are inconsistent. Zaremohzzabieh, et al., (2020) show that ecological knowledge influences green attitudes. However, Liu, et al., (2020) concluded that although environmental behavior is not significantly influenced directly by ecological knowledge, the effect is significant and is fully mediated by green attitude and green intention. On the other hand, Casaló, et al., (2019) show that the intention to purchase eco-friendly products is directly impacted by ecological knowledge. Zollo, et al., (2021) show that ecological knowledge cannot directly influence intention to buy but must go through Social Reinsurance and receipt of information.

The third is related to the correlation between Ecological Concern and Ecological Attitude. Wei, et al., (2021); Dhir, et al., (2021); Zaremohzzabieh, et al., (2020) show that Ecological Concern has a direct effect on Green Attitude. Onurlubaş (2018) shows that Ecological Concern has a direct effect on the desire to buy. Chuah, et al., (2020) demonstrate that it only has a moderating effect on the association between self-identity and perceived fit with the CSR brand fit and self-identity and moderates the correlation between self-identity and green product buying behavior. Hameed, et al., (2019) show that Ecological Concern can influence green product purchasing behavior through the mediation of subjective norms and perceived behavioral control. Zhang, et al., (2018) ecological concern has the role of moderator in the correlation between green washing perceptions and green product purchasing behavior. So, the problem formulation of this research is: What is the determine of green trust, ecological knowledge, ecological

concern, and green attitude toward intention to buy green products.

This research aims to examine green product purchase intentions by expanding the theory of planned behavior. Our research contributes to properly understand consumer preferences to buy green products by explaining what factors influence environmentally friendly product purchasing intentions among consumers in Yogyakarta, Indonesia. The factors are green trust, ecological knowledge, ecological concern, and green attitude. Furthermore, the findings of this research can also provide direction for companies in campaigning to purchase green products and developing effective environmentally friendly marketing strategies.

2. LITERATURE REVIEW AND HYPOTHESES

2.1 Theory of Planned Behavior

TPB examines the causes of behavior, assessing the significance of the behavior's determinants and intention to engage in them. As per the idea, an individual's intention to do a behavior is impacted by an assessment of the potential consequences of the conduct, their reference expectations, and potential triggers or obstacles to the behavior. According to Ajzen's (1991) model, these beliefs influence perceptions of behavioral control, attitudes toward conduct, and subjective norms, in that order (Ric-ci et al., 2018). The consumer's assessment of the consequences of engaging in that conduct is related to their attitude. If customers feel positively about purchasing a product, they are more likely to do so (Honkanen et al., 2006). The term "perceived behavioral control" describes how someone feels about their own capacity to carry out an action. This pertains to how simple or challenging the behavior is thought to be to execute. Like a view from the customer may be influenced by specific characteristics or by outside factors. Research has demonstrated that TPB constructs are highly predictive of decisions made about green products (Carfora et al., 2017; Carfora et al., 2019; Wang et al., 2019). In terms of the TPB's predictive power in the green product choice domain, the behavioral variance related to the consumption of organic food ranges from 18% (Thøgersen, 2009) to 82% (Tarkiainen & Sundqvist, 2005), while the explained variance of the intention to buy green products ranges from 24% (Cook et al., 2002) to 83% (Thøgersen, 2009). According to Vassallo et al. (2016), TPB factors are the most effective at explaining organic product purchases in relation to sustainable food items.

2.2 Intention to Buy

An individual's intention to purchase is a sign of their willingness to engage in a particular behavior. This is supposed to be a direct antecedent of behavior (Ajzen, 2001). Intention reflects the motivation and cognitive planning to engage in behavior (Carfora, et al., 2019). Green purchase intention measures how likely a customer is to buy a specific product because of their environmental beliefs. It also indicates how willing they are to make payments to companies for goods and services that have a reputation for being environmentally conscious (Ajzen, 2001).

2.3 Green Trust

Green trust is the willingness to use certain trusted products, products or brands that are thought to be ecologically friendly (Carfora, et al., 2019). Green trust has been acknowledged as a crucial element to clarify green product purchasing behavior because it can overcome the abundance of information that buyers must consider when shopping (Hobbs & Goddard, 2015). Regarding ecologically friendly products, consumers base a

lot of their decisions on green trust (Chalamon & Nabec, 2016). Trust is very attractive in the case of green products, because they have two product characteristics that are considered, namely comfort and environmentally friendly quality attributes. Sillani and Nassivera (2015) show that trust is important in consumers' intentions to purchase convenient foods with environmentally friendly characteristics. Green product purchasing behavior is strongly influenced by trust (Chuah et al., 2020; Lee et al., 2019; Lee et al., 2019). Chen et al. (2020); Taufik et al. (2017) found the phenomenon that consumer behavior that is environmentally friendly is a result of consumer trust in green products. Ricci et al. (2018) discovered that positive beliefs lead to positive attitudes, which raise the intentions to buy green products.

Hypothesis 1: Green trust has a positive effect on green attitude.

2.4 Ecological Knowledge

Ecological Knowledge is general understanding of the principles and facts pertaining to the natural world and its primary ecosystem (Fryxell & Lo, 2003). People's knowledge of the environment is referred to as ecological knowledge, and it is a crucial component that leads to the environmental responsibilities and aspects required for sustainable development (Faize & Akhtar., 2020; Liu, et al., 2020; Zaremohzzabieh, et al., 2020). As consumers become more knowledgeable, their views toward the environment tend to change. Yadav and Pathak (2016) & Dhir et al., (2021) discovered that consumers' attitudes toward the environment are significantly positively impacted by their level of ecological knowledge. Taufik et al. (2017) also found that attitudes toward the environment are greatly influenced by ecological knowledge. Taufique et al., (2017) and Polonsky et al., (2012) assert that there is a knowledge, attitude, and behavior gap because knowledge affects consumers' attitudes and may not always result in them adopting pro-environmental behavior.

Hypothesis 2: Ecological knowledge has a positive effect on green attitude.

2.5 Ecological Concern

Ecological Concern is public awareness of environmental issues, which is frequently demonstrated by the purchase of ecologically friendly goods (Dhir et al., 2021). Ecological concern is the degree to which consumers are conscious of environmental issues, support programs to address them, or indicate a desire to make personal environmental contributions (Zaremohzzabieh et al., 2020; Onurlubaş, 2018). Numerous studies demonstrate that green attitudes are strongly and favorably influenced by ecological concern (Trivedi et al., 2018; Dhir et al., 2021). According to experts, buyers with a high level of environmental consciousness typically purchase more ecologically friendly goods (Yadav & Pathak, 2016). However, the consumption behavior of green products exhibits a behavior-concern gap, as noted by Sadiq (2019). However, Landry et al. (2018) argue that ecological concern does not always correspond with ecological behavior.

Hypothesis 3: Ecological concern has a positive effect on green attitude.

2.6 Green Attitude

Green attitudes are assessments, either favorable or negative, of the effects of pro-environmental behavior (Carfora, et al, 2019). Green attitudes are a collection of personal convictions and feelings about one's own actions and environmental issues (Onurlubas, 2018). When someone has a positive attitude toward the environment, he pays more attention to environmental problems and emphasizes eco-social advantages

(Cheung & To, 2019). Xin Qi and Ploeger (2021) found that green attitudes are a prominent driver from environmental behavior and behavioral intention. Kumar et al. (2021) found that intentions to purchase environmentally friendly products are positively impacted by consumer attitudes toward environmental issues. Tandon, et. al., (2020) claimed that attitudes toward green buying can affect behavior related to green purchasing through the mediation of intentions related to green purchasing.

Hypothesis 4: Green attitude has a positive effect on intention to buy green products.

3. RESEARCH METHODS

3.1 Research Design

This study was carried out by expanding the use of TPB in the context of green purchase intention in Yogyakarta by using an exploratory study (Neuman, 2014: 40). The object of this research is green products. Based on the time dimension used in this study is cross-sectional.

3.2 Population and Sample

This study's population were all individuals who had never bought green products. Non-probability sampling, specifically purposive sampling, is the method employed for the sample. The study's population consists of Yogyakarta consumers who have never bought green products. The sample is some portions of the population who have not purchased a green product in Yogyakarta. Determining the sample size used in this study follows the minimum adequacy of the sample size in the partial least square-SEM (PLS-SEM) and structural equation modeling (SEM). It was explained that the minimum sample size required in PLS-SEM was ten times the total measurement items in the study (Hair et al., 2019: 133). The total items measurement used in this study is 15 items. Therefore, based on this explanation, the study employed a sample size 150 respondents who have never buy green products and live in Yogyakarta. Samples were collected using an online questionnaire sent to respondents via Google form. Data on the characteristics of research respondents are shown in table 1 below.

Table 1. Description of respondents

Characteristics	Description	Amount
Gender	Male	62
	Female	88
Ages	18 - 25 years	79
	26 - 32 years	36
	33 - 39 years	10
	> 40 years	25
Profession	Undergraduate student	43
	Master's student	54
	Lecturer	37
	Employees	16

3.3 Data Analysis Technique

This study uses Structural Equation Modeling (SEM) as its model. The measurement model for the variables green trust, ecological knowledge, ecological concern, green attitude, and intention to buy uses Confirmatory Factor Analysis. Path coefficients are used to estimate each independent variable's impact on the dependent variable. The data analysis tool used in this research is PLS 3.0.

4. ANALYSIS AND DISCUSSION

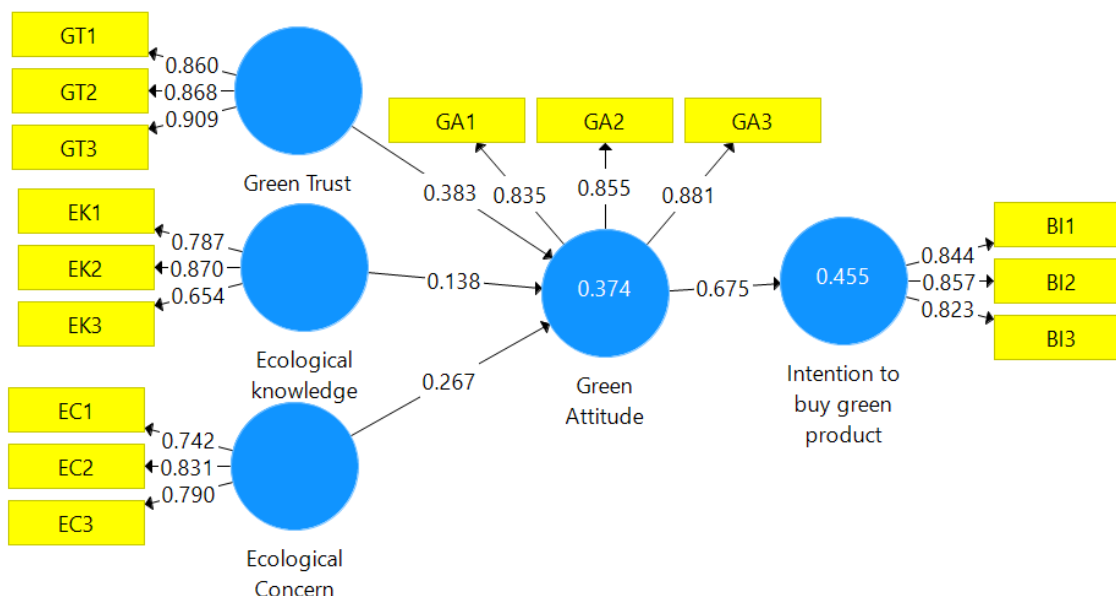
4.1 Characteristics of The Respondents

Characteristics of respondents describes the presence of respondents in the research area. This research uses data obtained from 150 respondents who have never purchased green products and have good knowledge about green products. Data collection was carried out online using the Google Form.

4.2 Evaluating the Structural Model and Hypothesis Testing

The hypothetical relationship between the suggested variables is depicted in Figure 1 evaluation of the structural model. The fit model generated from Smart-PLS shows an acceptable fit. The results show that the intention to buy green product model is acceptable, and all the proposed hypotheses are supported. R value² obtained in this study were 0.374 and 0.455.

Figure 1. Model of intention to buy green product.



Details regarding the direct impact on every relationship between variables are displayed in Table 1. Every path displays significant results with a t-statistic greater than 1.96 and a p-value less than 0.05. Every hypothesis that is presented in this research is validated.

Table 2. Hypothesis testing of factors affecting intention to buy green product.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
Ecological concern → Green Attitude	0.267	0.272	0.090	2.976	0.003
Ecological knowledge → Green Attitude	0.138	0.150	0.080	2.741	0.042
Green attitude → Intention to buy green product	0.675	0.676	0.041	16.423	0.000
Green trust → Green Attitude	0.383	0.379	0.065	5.921	0.000

4.3 Discussion and Implications

The study's findings support the validity of the green product purchase intention model. This research supports previous research which shows that green product purchase intentions are influenced by green trust (Dhir, et al., 2021; Carforaa, et al., 2019; Yu, et al., 2021) and Hameed, et al., (2020), ecological knowledge (Dhir et al., 2021; Faize & Akhtar, 2020; Liu et al., 2020; Zaremohzzabieh et al., 2020), ecological concern (Dhir et al., 2021; Zaremohzzabieh et al., 2020; Onurlubaş 2018). Apart from that, this research also supports previous research from Wardhana (2022) regarding sustainable consumption in the Special Region of Yogyakarta which stated that environmentally friendly behavior is very important to implement in daily activities.

The results of this research provide the implication that the people of Yogyakarta have intentions to buy green products which are influenced by ecological concern, ecological knowledge, green attitude, and green trust. Individuals who already have ecological awareness will intend to buy green products. Likewise, individuals who have environmental knowledge will have an influence on attitudes. This shows that pro-environmental behavior shown in the intention to buy green products can be increased through increasing ecological knowledge. In this way, policy makers can focus on increasing consumers' ecological knowledge so that the attitude-behavior gap can be reduced.

In addition, trust is a determinant of consumer attitudes towards green products. Efforts that focus on labeling green products alone are not enough to build consumer confidence in the safety of green products. Consumer confidence in green products can be built from properly maintaining and monitoring the safety of green products by producers. Producers pay special attention to the safety of green products and green product producers possess the knowledge necessary to ensure the security of their products. To enhance consumers' green purchasing behavior, marketers can work to cultivate favorable attitudes and beliefs about environmentally friendly products by supporting a range of pro-environmental initiatives that bolster companies' environmental claims. This can also be accomplished by creating efficient communication plans that emphasize educating and empowering consumers about how environmentally friendly behavior can preserve the environment and ensure that it is

available to current and next generations.

5. CONCLUSION

This research is an extension of the TPB model by adding ecological knowledge, green trust, and ecological concern variables. This research model is built from several previous research results. It is hoped that it can expand understanding of purchasing intentions for green products. This research tries to resolve several research gaps that arise from several variables built to predict purchase intentions for green products, guided by the proposed research model. The data used was 150 respondents obtained by conducting a Google Forms survey. There are four hypotheses proposed in this research. The four research hypotheses are supported.

This research provides a practical contribution for companies in developing effective environmentally friendly marketing strategies. Based on hypothesis testing, it is well recognized that a person's attitudes toward purchasing green products are significantly impacted by consistent ecological knowledge. This shows that green attitude can be increased through increasing environmental knowledge. In this way, companies can focus on increasing consumers' environmental knowledge so that they can increase consumer intentions to purchase green products. Furthermore, green trust and ecological concern are also determinants of consumer attitudes towards green products. Consumer confidence in green products can be built from good care and supervision of green product safety. Companies can pay special attention to the safety of green products and the knowledge they need to provide enough to guarantee the safety of the product. Also, marketers can make efforts to develop positive environmental beliefs and attitudes towards green products by sponsoring various pro-environmental initiatives that can strengthen the environmental claims of companies, thereby increasing consumers' green purchasing behavior.

6. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

First, this research is related to purchasing intentions for green products in Yogyakarta. In further research, we can examine the actual purchasing behavior of green products. Although high behavioral intentions can be used to predict behavior, future research would be better if it could predict green product purchasing behavior using longitudinal studies. This is so that future research can better examine green product purchasing behavior. Apart from that, developing a conceptual model can also provide opportunities for future researchers by adding several variables that might influence green product purchasing behavior. Second, further research limitations relate to the size of the sample and how the questionnaire is distributed. The sample size in this study is small, namely 150 respondents. Even though it meets the requirements of Hair et al. (2019) regarding drinking sample size, namely ten times the total measurement items in the study, using a larger sample size will validate a study more.

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