



## The Influence of Green Awareness and Green Knowledge on Green Purchase Intention on Batik Indonesia

Ropidin<sup>1\*</sup>, Dudi Permana<sup>2</sup>, Lenny Christina Nawangsari<sup>3</sup>, Rosalendro Eddy Nugroho<sup>4</sup>

Mercu Buana University, Indonesia

**Corresponding Author:** Ropidin [febrianoropidin87@gmail.com](mailto:febrianoropidin87@gmail.com)

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### ABSTRACT

The interest in purchasing environmentally friendly batik shows a positive trend, driven by consumers' increasing understanding of the value of environmental protection. With an increasing variety of eco-friendly batik options available, consumers can contribute to environmental conservation while still enjoying the beauty and uniqueness of batik. SEM-PLS is the data analysis tool used in this quantitative study. The term "green purchase intention" describes customers' propensity to purchase sustainable and non-damaging products or those that are environmentally friendly. The factors that determine environmentally friendly purchasing behavior need to be explored. The desire to purchase eco-friendly goods must exist before green buying habits are developed. This study looks at the factor's green awareness and green knowledge that can affect green purchase intention. The findings indicate that green purchase intention is positively impacted by both green awareness and green knowledge.

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## INTRODUCTION

In the era of rapid development and increasing environmental awareness, consumer behavior is undergoing a significant transformation. People are becoming more conscious of the environmental impact of the products and services they use, prompting businesses to adopt sustainable practices. This shift is particularly urgent in industries with high environmental footprints, such as the textile and fashion sectors.

The textile industry, for instance, produces vast quantities of waste annually. Every year, about 92 million tons of textile waste are produced worldwide, and the industry ranks second only to packaging in contributing to plastic waste, producing approximately 42 million tons annually (Kasavan et al., 2021). In Indonesia, the textile industry plays a strategic economic role, employing 3.58 million workers. However, its environmental impact is considerable, particularly through wastewater containing synthetic dyes that are difficult to degrade (www.dw.com, 2022).

Attempts to develop eco-friendly industrial techniques, including using natural dyes to make batik, have emerged since 2010. Nevertheless, sustainable transformation still faces various challenges. For consumers to support such changes, a deeper understanding of the determinants of eco-conscious purchasing behavior is needed. These include green purchase intention, green awareness, and green knowledge.

## LITERATURE REVIEW

### *Green Purchase Intention*

The term green purchase intention (GPI) describes a customer's propensity to purchase eco-friendly goods. According to Sheng et al., (2021), GPI is a psychological condition that motivates actual purchasing behavior. A desire rooted in ecological values and concern for environmental impacts.

A consumer's desire to buy eco-friendly products is known as green purchase intention, or GPI. These products are believed to have a lower impact on the planet than conventional products. This intention is the first step towards more environmentally friendly consumption patterns (Zhuang et al., 2021). Zhuang et al. (2021) highlight that increasing concern over climate issues has significantly altered lifestyles and enhanced consumer awareness of their environmental footprint, thereby strengthening their want to select environmentally friendly goods. The desire of customers to include eco-friendly products in their purchase decisions is known as the GPI, often influenced by environmental values and product perceptions (Wijekoon & Sabri, 2021).

### *Green Awareness*

Green awareness refers to the understanding and recognition of the importance of environmental sustainability. According to Pradeep & Pradeep, (2023), raising awareness and educating consumers can shift attitudes and, ultimately, behaviors. The assumption that changes in knowledge lead to behavioral changes is supported by various empirical findings.

Green awareness reflects a consumer's concern and consciousness about environmental degradation and the role they play through their purchasing

decisions” (Lestari, Septifani, & Nisak, 2021). At the societal level, environmental awareness serves as an indicator of a nation’s cultural and civic maturity (Man Li et al., 2021).

Hsu & Pivec, (2021) emphasize that for businesses to effectively address sustainability issues, they must embed environmental support and transparent reporting into their core strategies. Increasing public concern over industrial sustainability, along with the growing impact of emissions and energy consumption, has intensified the need for broader environmental awareness, especially in industrial sectors (Eid et al., 2022).

H1. Green Purchase Intention is positively impacted by Green Awareness.

### ***Green Knowledge***

Green knowledge encompasses the understanding of environmentally friendly behavior, green technologies, and sustainable practices. Rubel et al., (2020) define it as knowledge acquired through work-related experiences and eco-service practices. Customers' awareness of environmental challenges and the advantages of green products is referred to as green knowledge, which influence their green lifestyle and purchase intentions.” (Putri & Hayu, 2024).

Yu et al., (2022) argue that green knowledge is not limited to information about nature but includes insights into how to respond sustainably in various social and economic contexts. Unlike traditional resources, green knowledge is an intangible asset that cannot be managed. Instead, it influences innovation tendencies (Marco-Lajara et al., 2023) and enables the development of sustainable logistics practices (Van Vo & Nguyen, 2023).

Wang et al., (2022) emphasize the strategic role of green knowledge in green management and sustainable development, while Peng et al., (2020) note its importance in creating eco-friendly supply chain performance. Ryantari & Giantari, (2020) reinforce the need for widespread public education to inform people about the environmental impacts of products and the benefits of using green-labeled goods.

H2. Green Purchase Intention is positively impacted by Green Knowledge.

## **METHODOLOGY**

This study involved a population consisting of batik consumers from the general public. The Simple Random Sampling approach, which offers every person of the population an equal chance of being chosen as a sample, was used to calculate the sample size. A total of 120 respondents were obtained through a survey method using Google Forms. Then, SEM PLS (Partial Least Squares) version 3.0 was used to analyze the gathered data.

## **RESEARCH RESULT**

### ***Outer Model***

#### ***1. Convergent Validity***

A test called convergent validity is used to assess how strongly latent constructs and the indicators that go along with them are related. In this study, all indicator variables are considered reflective, and the assessment of convergent validity relies on the loading factor values. Rönkkö & Cho, (2022) in the Asia

Pacific Journal of Management provide best practice guidelines: evaluate convergent validity with standard factor loadings  $\geq 0.5$ – $0.7$  and AVE  $\geq 0.50$ , and emphasize that model fit alone is not sufficient for convergent validity. Indicators with higher loading factor values are regarded as stronger measures of the construct. The results of the convergent validity testing in this study are presented below.

Table 1. Convergent validity value

| Construct                | Code item | Loading factor | Description |
|--------------------------|-----------|----------------|-------------|
| Green Awareness          | X1.1      | 0.691          | Valid       |
|                          | X1.2      | 0.841          | Valid       |
|                          | X1.3      | 0.845          | Valid       |
|                          | X1.4      | 0.796          | Valid       |
| Green Knowledge          | X2.1      | 0.817          | Valid       |
|                          | X2.2      | 0.856          | Valid       |
|                          | X2.3      | 0.782          | Valid       |
|                          | X2.4      | 0.852          | Valid       |
| Green Purchase Intention | Y.1       | 0.892          | Valid       |
|                          | Y.2       | 0.886          | Valid       |
|                          | Y.3       | 0.845          | Valid       |
|                          | Y.4       | 0.787          | Valid       |

*Source: Processed Primary Data, 2025*

Table 1 shows that every item or indication has an outside loading value larger than 0.70. Therefore, according to the criteria for outer loading validity, all items or indicators are considered valid in terms of item validity.

## 2. Discriminant Validity

Discriminant validity serves as a guideline in evaluating the development of research instruments. In this test, the validity assessment is based on cross-loading values. If the cross-loading value for every variable is more than 0.70, the indicator is said to satisfy the requirements for discriminant validity. The results of the discriminant validity test are presented in Table 2 as follows:

Table 2. Discriminant Validity Value (Cross Loading)

| Indicator | Green Awareness (X1) | Green Knowledge (X2) | Green Purchase Intention (Y) |
|-----------|----------------------|----------------------|------------------------------|
| X1.1      | 0.691                | 0.452                | 0.488                        |
| X1.2      | 0.841                | 0.569                | 0.543                        |
| X1.3      | 0.845                | 0.641                | 0.597                        |
| X1.4      | 0.796                | 0.604                | 0.508                        |
| X2.1      | 0.658                | 0.817                | 0.604                        |
| X2.2      | 0.518                | 0.856                | 0.619                        |
| X2.3      | 0.431                | 0.782                | 0.440                        |
| X2.4      | 0.710                | 0.852                | 0.720                        |

|     |       |       |       |
|-----|-------|-------|-------|
| Y.1 | 0.634 | 0.609 | 0.892 |
| Y.2 | 0.641 | 0.688 | 0.886 |
| Y.3 | 0.468 | 0.635 | 0.845 |
| Y.4 | 0.544 | 0.579 | 0.787 |

*Source: Processed Primary Data, 2025*

Based on Table 2, it is evident that the cross-loading values of each indicator are higher for their respective latent variables than for other variables. This suggests that the discriminant validity of each latent variable is good.

### 3. Reliability Testing

The purpose of reliability testing is to determine whether the measurement remains consistent over time. The reliability test in this study uses three main criteria: Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE). If a construct's AVE is higher than 0.50, Composite Reliability is higher than 0.70, and Cronbach's Alpha is higher than 0.70, it is deemed dependable.

Table 3. Cronbach Alpha dan Composite Reliability

| Indicator                | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (AVE) |
|--------------------------|------------------|-------|-----------------------|----------------------------------|
| Green Awareness          | 0.804            | 0.812 | 0.873                 | 0.633                            |
| Green Knowledge          | 0.848            | 0.866 | 0.896                 | 0.684                            |
| Green Purchase Intention | 0.875            | 0.881 | 0.915                 | 0.728                            |

*Source: Processed Primary Data, 2025*

Green Awareness (X1), Green Knowledge (X2), and Green Purchase Intention (Y) are variables with Cronbach's Alpha and Composite Reliability values better than 0.60 and Average Variance Extracted (AVE) values over 0.50, according to Table 3. These results indicate that all the variables under study exhibit good reliability. Thus, the questionnaire used in this research is considered reliable and consistent.

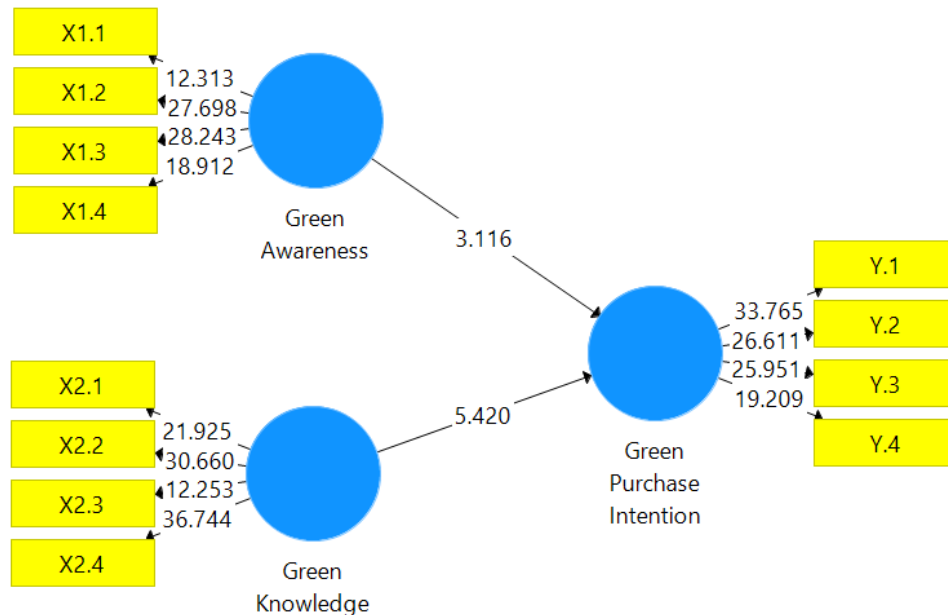
### Evaluation of the Structural Model (Inner Model)

Predicting the relationships between latent variables is the goal of evaluating the structural model, which is based on substantive theory. The R-square ( $R^2$ ) value is used to evaluate the primary model. This evaluation involves examining the explanatory power of the model and testing the proposed hypotheses.

The goodness-of-fit of the model is evaluated using the R-square value, which shows how well exogenous variables can account for endogenous variable

variance. A higher R-square value reflects better model quality in predicting the outcome variable.

In addition, hypothesis testing is conducted by analyzing the significance levels of the relationships between variables. The results of the bootstrapping procedure used to test the structural model are presented below.



According to the above-mentioned structural model, all of the variables' indicators are deemed legitimate and suitable for use in this investigation since they meet the convergent validity standards. Presenting the R-squared ( $R^2$ ) values for every dependent variable is the first step in evaluating the structural model.

### 1. R-Square ( $R^2$ )

The R-square values serve as an indicator of the explanatory power of independent latent variables on dependent latent variables, providing evidence of substantive influence. R-square values are categorized into three levels:

- 0.75 = substantial
- 0.50 = moderate
- 0.25 = weak

The R-square values in this study are presented in the following table 4.0:

| Table 4. R-Square        |          |                   |
|--------------------------|----------|-------------------|
|                          | R Square | R Square Adjusted |
| Green Purchase Intention | 0.587    | 0.580             |

Source: Processed Primary Data, 2025

The R-Square results in table 4 show that the R-Square value is 0.587 (Moderate). This figure shows that 58.7% of green purchase intention is driven by green awareness and green knowledge variables, with the remaining portion being influenced by variables not included in this study.

Table 5. Direct Effect Bootstrapping Results

|                                                      | Original<br>Sample<br>(O) | Sample<br>Mean<br>(M) | Standard<br>Deviation<br>(STDEV) | T Statistics<br>( O/STDEV ) | P<br>Values |
|------------------------------------------------------|---------------------------|-----------------------|----------------------------------|-----------------------------|-------------|
| Green<br>Awareness -><br>Green Purchase<br>Intention | 0.299                     | 0.318                 | 0.096                            | 3.116                       | 0.002       |
| Green<br>Knowledge -><br>Green Purchase<br>Intention | 0.523                     | 0.512                 | 0.097                            | 5.420                       | 0.000       |

*Source: Processed Primary Data, 2025*

The bootstrapping results, which are based on Table 5, demonstrate how each independent variable directly affects the dependent variable.

## DISCUSSION

In particular, the t-statistic value for the relationship between Green Awareness and Green Purchase Intention is 3.116, above the 1.96 cutoff, and the associated p-value is 0.002, below the 0.05 barrier. Additionally, a positive association is indicated by the original sample value of 0.299.

Thus, it can be said that Green Awareness significantly improves Green Purchase Intention, with  $H_{01}$  being refused and  $H_{a1}$  being accepted.

The p-value for the variable Green Knowledge on Green Purchase Intention is 0.000, which is less than 0.05, and the t-statistic value is 5.420, which is higher than the crucial value of 1.96.

According to these findings,  $H_{02}$  is rejected and  $H_{a2}$  is accepted, suggesting that Green Purchase Intention is significantly positively impacted by Green Knowledge.

## CONCLUSIONS AND RECOMMENDATIONS

The study's findings show that green awareness and knowledge have a favorable impact on green purchase intention. Future research may explore other variables that are believed to affect green purchase intention in the Indonesian context. This study can also serve as a reference for business practitioners in understanding consumer interest in environmentally friendly products.

## ADVANCED RESEARCH

Advanced research in this area could investigate the integration of digital technology, such as blockchain and IoT-enabled traceability systems, into the green batik supply chain to enhance transparency, consumer trust, and measurable environmental impact. By linking green awareness and green knowledge with verifiable product life cycle data, researchers can examine how real-time sustainability information influences green purchase intentions across different consumer segments. Furthermore, future studies could employ experimental designs to compare the behavioral effects of conventional eco-labeling versus interactive digital storytelling, providing insights into the most effective communication strategies for promoting eco-friendly batik in both domestic and global markets.

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