

Drivers of Green Apparel Purchase in Indonesia: Willingness to Pay as a Moderator

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ABSTRACT

In response to increasing environmental concerns and consumer demand, many apparel industries have adopted sustainable practices to reduce the environmental impact of textile waste and production processes. However, actual purchases of green products remain relatively low due to a gap between consumer intention and behavior. While previous studies have explored various determinants of green purchasing, limited research has integrated psychological factors from the Theory of Planned Behavior (TPB) with value-based constructs to explain this gap, particularly within Indonesia's price-sensitive fashion market. This research investigated the factors influencing green apparel purchase intention and behavior in Indonesia by extending the TPB with additional variables: trust, green purchase value, environmental concern, environmental knowledge, and perceived consumer effectiveness. It also examined the moderating effect of Willingness to Pay. A quantitative approach was employed, using survey data from 496 Indonesian consumers, and the analysis was conducted using Structural Equation Modeling – Partial Least Squares (SEM-PLS). Results show that green purchase value significantly influences trust and attitude, while perceived consumer effectiveness, environmental concern, and environmental knowledge significantly affect attitude, subjective norms, and perceived behavioral control. Subjective norms significantly affect green purchase intention, which in turn significantly predicts green purchase behavior. Willingness to pay moderates the relationship between green purchase intention and green purchase behavior. The research contributes theoretical originality by bridging TPB and value-based perspectives and provides practical insights for businesses seeking to translate sustainable intentions into actual green apparel purchases in Indonesia.

Keywords: green apparel, Theory of Planned Behavior (TPB), green purchase intention, green purchase behavior, willingness to pay

INTRODUCTION

The textile industry holds a strategic role in Indonesia's economic growth, contributing approximately 5.61% to manufacturing and serving as a key player in global textile exports (Nekmahmud et al., 2022). However, heavy reliance on natural resources, complex supply chains, and waste exacerbate air, water, and soil degradation, while high energy consumption contributes more than 10% to global climate change. For example, apparel emissions were about 879 million metric tons in 2022 and could exceed 1.2 billion metric tons by 2030 if unmitigated (Bildirici et al., 2025; Statista, 2025). In response, global and local brands are increasingly adopting

sustainability practices (green apparel), including circular fashion, slow fashion, and recycled materials, with notable brands such as Sejahu Mata Memandang, SukkhaCitta, UNIQLO, Adidas, and Levi's (Salem & Alanadoly, 2020; Khan et al., 2023; Handayani, 2022; Febriani, 2023; Ong et al., 2024; Adidas Group, 2020).

Although consumer awareness, environmental knowledge, and environmental concern increasingly influence purchasing preferences, especially among millennials Gen Z, actual green purchases remain low due to an intention–behavior gap shaped by price, availability, social factors, and information deficits, despite 79% expressing willingness to pay more (Dhir et al., 2021; IDN Research Institute, n.d.; Wijekoon & Sabri, 2021; Yuzril, 2024). Concepts

such as green purchase value and trust are crucial for bridging this gap and encouraging actual green buying behavior (Roh et al., 2022). The research uses a green marketing perspective integrated with the Theory of Planned Behavior (TPB) to examine psychological and environmental drivers of intention and behavior in eco-friendly apparel, aligning with prior evidence on the roles of environmental concern, knowledge, perceived value, and trust in shaping attitudes and intentions (Ajzen, 1991; Yadav et al., 2024; Rasheed et al., 2024; Roh et al., 2022).

Green innovation and marketing strategies span sustainable practices from product development to promotional efforts and aim to influence green purchase intentions, with effectiveness varying by product category, consumer awareness, and trust in environmental claims (Huang et al., 2024; Kumar et al., 2022). These initiatives help to shape consumers' attitudes, influence social norms, and enhance perceived behavioral control through education, awareness-building, and increased availability of green alternatives. Three TPB elements are central to predicting intention and action (Ajzen, 1991; Yadav et al., 2024).

Complementing TPB and based on the Theory of Consumption Values (TCV) (Sheth et al., 1991), green perceived value explains consumers' holistic assessment of environmental, functional, and emotional advantages relative to costs. It is strongly linked to trust and favorable attitudes across green product categories (Roh et al., 2022; Liu et al., 2025). Green perceived value is recognized as a major precursor to green trust, as consumers are more likely to trust products they perceive to have high environmental value (Román-Augusto et al., 2022). In addition, green perceived value positively shapes consumer attitudes by reinforcing the perceived usefulness of green products, delivering emotional gratification, and supporting social acceptance, all of which strengthen their intention to purchase (Arora & Manchanda, 2022). These findings justify the inclusion of green perceived value in expanded behavioral models like TPB, especially in the context of environmentally conscious apparel consumption. Drawing on this rationale, the research proposes the following hypotheses:

H1: Green perceived value positively and significantly influences trust,

H2: Green perceived value positively and significantly influences attitude toward green products.

Perceived consumer effectiveness refers to an individual's belief that their personal efforts can contribute positively to addressing environmental issues (Liao et al., 2023). This perception is a key factor in encouraging environmentally responsible behaviors, especially within the realm of green consumption. People with a strong sense of perceived consumer effectiveness are typically more responsive

to environmental concerns and more inclined to form favorable attitudes toward eco-friendly products (Truc, 2024). This belief often stems from a combination of one's knowledge, past experiences, and value-driven motivations (Kim & Choi, 2005). Evidence from several empirical studies, such as those conducted by Zheng and Chi (2015) and Rasheed et al. (2024), demonstrates that perceived consumer effectiveness has a meaningful impact on consumer attitudes and purchasing behavior by reinforcing the idea that individual consumption decisions can support environmental sustainability. As a result, consumers who possess high perceived consumer effectiveness are generally more likely to hold positive attitudes toward green products.

H3: Perceived consumer effectiveness positively and significantly influences attitude toward green products.

In addition, perceived consumer effectiveness has been found to relate closely to subjective norms and perceived behavioral control. Those are two key components within the TPB. Individuals with strong perceived consumer effectiveness are more likely to perceive that their green purchasing behaviors are socially encouraged and aligned with collective environmental values (Kang et al., 2013; Harjadi & Gunardi, 2022). Furthermore, perceived consumer effectiveness strengthens perceived behavioral control, as individuals who trust in the impact of their actions often feel more capable of making environmentally responsible choices. Research by Galván-Mendoza et al. (2022) and Harjadi and Gunardi (2022) has supported the notion that perceived consumer effectiveness enhances perceptions of social expectations and one's confidence in performing green behaviors. Based on this, the following hypotheses are proposed:

H4: Perceived consumer effectiveness positively and significantly influences subjective norms,

H5: Perceived consumer effectiveness positively and significantly influences perceived behavioral control.

Environmental concern refers to an individual's cognitive and emotional engagement with environmental problems, encompassing both awareness of and sensitivity to ecological degradation (Lee, 2008). Environmental concern is a key determinant of consumer behavior, especially in influencing attitudes toward eco-friendly products. Individuals who are highly concerned about environmental issues tend to avoid products that harm the environment and are more inclined to choose sustainable alternatives (Lavuri et al., 2022). Numerous studies have confirmed the positive link between environmental concern and pro-environmental attitudes. Environmental concern is identified as a strong predictor of eco-conscious behavior in young consumers (Lee, 2008). Similarly, environmental concern positively impacts attitude

toward green products (Kumar et al., 2022; Khan & Qureshi, 2025). Those studies highlight the vital role of environmental concern in fostering supportive attitudes toward the adoption of green apparel. Hence, the following hypothesis is proposed:

H6: Environmental concern has a significant and positive influence on attitude toward green products.

In addition to its influence on attitudes, environmental concern also contributes to the development of subjective norms and perceived behavioral control, two major constructs within TPB. Environmentally concerned consumers are generally more attuned to social expectations regarding sustainability and feel more capable of acting in line with those expectations. Previous research by Kumar et al. (2022) and Kang et al. (2013) has suggested that environmental concern positively impacts subjective norms by reinforcing perceived social pressure to make eco-conscious choices. Moreover, individuals with strong environmental concern are more likely to feel empowered to engage in sustainable behaviors, enhancing their sense of behavioral control (Galván-Mendoza et al., 2022; Harjadi & Gunardi, 2022). Therefore, the researchers propose the following hypotheses:

H7: Environmental concern has a significant and positive influence on subjective norms,

H8: Environmental concern has a significant and positive influence on perceived behavioral control.

Environmental knowledge can be broadly defined as an individual's awareness and understanding of environmental concepts, issues, and their potential solutions, encompassing both factual information and the perceived implications of human-environment interactions (Zhang et al., 2025). This form of cognitive knowledge plays a central role in shaping consumer attitudes toward sustainable products. People with higher levels of environmental knowledge are more likely to develop favorable attitudes toward green products, as they understand both the harmful impacts of conventional consumption and the long-term benefits of sustainability (Rasheed et al., 2024; Lavuri et al., 2023). Multiple studies, such as Chaudhary and Bisai (2018) and Burgos-Espinoza et al. (2024), have shown that environmental knowledge significantly influences attitude toward green products, particularly in the context of green fashion. Therefore, the following hypothesis is presented:

H9: Environmental knowledge has a significant and positive influence on attitude toward green products.

Beyond influencing attitudes, environmental knowledge also strengthens subjective norms and

perceived behavioral control. Individuals who are well-informed about environmental issues tend to be more aware of social expectations around sustainable behaviors and often seek affirmation from others who share similar values (Lavuri, 2022; Galván-Mendoza et al., 2022). Research suggests that environmental knowledge enhances alignment with environmental norms and increases perceived social pressure to consume responsibly (Rasheed et al., 2024; Yadav & Pathak, 2017). In addition, individuals with higher environmental knowledge generally feel more capable of taking meaningful eco-friendly actions, thus improving their perceived control over sustainable consumption (Rasheed et al., 2024; Galván-Mendoza et al., 2022). Accordingly, the following hypotheses are proposed:

H10: Environmental knowledge has a significant and positive influence on subjective norms,

H11: Environmental knowledge has a significant and positive influence on perceived behavioral control.

Green trust refers to a consumer's readiness to depend on environmentally friendly products, grounded in the belief that these products are credible, well-intentioned, and capable of delivering environmental benefits (Chen, 2010). Within the realm of green marketing, trust is recognized as a key element in influencing consumer decision-making. Numerous studies have confirmed that green trust plays a positive role in shaping purchase intentions. The role of green trust as a primary predictor of consumers' intentions to buy sustainable products is reinforced (Roh et al., 2022; Tandon et al., 2020; Amin & Tarun, 2021). In line with these insights, the research proposes the following hypothesis:

H12: Trust has a significant and positive influence on Green Purchase Intention (GPI).

In addition to shaping intentions, trust also has a direct impact on consumers' actual green purchasing behavior. When consumers believe in the credibility and environmental effectiveness of green products, their confidence in making sustainable choices increases. Research by Gorton et al. (2021) and Dhir et al. (2021) has demonstrated that trust in eco-labels and environmental claims is positively linked to actual green behavior, not just stated intention. Moreover, green trust has a positive relationship with green behavior, especially among younger buyers (Ogiemwonyi, 2024). These findings highlight how trust can drive long-term loyalty and support repeated environmentally conscious purchases. Thus, the following hypothesis is put forward:

H13: Trust has a significant and positive influence on green purchase behavior.

Attitude, as described by Ajzen (1991), refers

to a person's positive or negative evaluation of a behavior. In the context of eco-friendly consumption, it reflects how consumers emotionally and cognitively respond to green products (Rasheed et al., 2024). A wealth of empirical evidence shows that a favorable attitude toward green alternatives significantly increases consumers' intention to make sustainable purchases. Attitude is also the most influential driver of green purchase intention among Indian consumers (Dilotsotlhe, 2021; Nekomahmud et al., 2022). Likewise, the stronger consumers' favorable views of green products are, the more likely they are to express an intent to buy them (Kumar et al., 2017). These statements highlight the importance of fostering positive attitudes to promote green consumption.

Under the TPB, attitude is one of the main predictors of behavioral intention (Ajzen, 1991). It has been validated in several studies, including those by Rasheed et al. (2024), identifying a strong correlation between pro-environmental attitudes and the intention to purchase sustainable clothing. Attitude plays a leading psychological role in shaping eco-friendly purchase decisions, particularly among younger consumers (Chaudhary & Bisai, 2018). Moreover, attitude remains a critical determinant of green consumption behavior across diverse demographic segments (Yen & Hoang, 2023). These findings support the development of the following hypotheses:

H14: Attitude toward green products has a significant and positive influence on green purchase intention,

H15: Attitude toward green products has a significant and positive influence on green purchase behavior.

Subjective norms refer to an individual's perception of social expectations regarding whether to engage in a certain behavior, typically shaped by influential people such as friends, family, or colleagues (Ajzen, 1991). In the area of sustainable consumption, numerous studies have confirmed a strong connection between subjective norms and green purchase intention. For example, perceived social influence significantly affected green apparel purchase intentions (Vishnoi et al., 2025). Similar findings emphasize the impact of social encouragement, especially from close networks, on green consumption choices in fashion and athletic wear (Nekomahmud et al., 2022). These insights reinforce the notion that perceived social norms are a strong predictor of sustainable purchasing intention. These findings support the development of the following hypotheses:

H16: Subjective norms have a significant and positive influence on green purchase intention.

Beyond influencing intention, Subjective norms also play a direct role in shaping environmentally responsible purchasing behavior. When consumers believe their green choices are supported by their social

circles and aligned with ethical standards, they are more likely to follow through with actual purchases. It is further noted that social influence helps to close the intention-behavior gap in green fashion contexts (Dhir et al., 2021). Then, subjective norms are identified as a motivating factor in promoting sustainable actions among young consumers (Ogiemwonyi, 2024). These studies indicate that subjective norms not only shape intentions but also act as behavioral drivers. These findings support the development of the following hypotheses:

H17: Subjective norms have a significant and positive influence on green purchase behavior.

Perceived behavioral control refers to an individual's perception of how easy or difficult it is to perform a particular behavior, considering both internal capabilities and external constraints such as time, financial resources, and product availability (Ajzen, 1991; Nekomahmud et al., 2022). Within the TPB, perceived behavioral control is recognized as a crucial factor influencing a person's intention to act. When consumers feel they have the necessary support, means, and access to green products, they are more inclined to form strong intentions to purchase them. Perceived behavioral control is the most influential predictor of green purchase intention in the Indian context (Yadav & Pathak, 2017; Kumar et al., 2021). Similarly, another research reports consistent findings among younger consumers in both Asian and American markets (Kang et al., 2013). These results suggest that the perceived ease of engaging in sustainable behaviors greatly enhances one's intention to buy eco-friendly goods. Hence, this hypothesis is as follows:

H18: Perceived behavioral control significantly and positively influences green purchase intention.

Beyond shaping intention, perceived behavioral control may also have a direct effect on actual buying behavior. According to Ajzen (1991), individuals who perceive higher control over their actions are more likely to act on their intentions. It is particularly relevant in the green consumption domain, where obstacles such as limited availability, higher prices, and uncertainty about product claims often hinder behavior. Empirical studies, such as Dhir et al. (2021) and Ogiemwonyi (2024), demonstrate that when consumers feel fewer constraints, they are more likely to follow through with sustainable purchasing, especially in green apparel. Therefore, perceived behavioral control not only drives intention but also plays a facilitating role in converting intention into behavior.

H19: Perceived behavioral control significantly and positively influences green purchase behavior.

Green purchase intention represents a consumer's likelihood or plan to buy eco-friendly products, such as green clothing. Several

psychological and environmental factors, such as trust, attitude, environmental concern, environmental knowledge, subjective norms, and perceived consumer effectiveness, contribute to the development of green purchase intention (Rasheed et al., 2024; Roh et al., 2022). This intention is a key factor in driving actual green purchase behavior, which includes selecting environmentally friendly products and avoiding those that are harmful to nature (Soomro et al., 2020). Other influential elements, such as ethical values, environmental awareness, social influence, personality traits, and marketing strategies, also shape green purchase behavior. Empirical studies confirm that consumers with stronger green intentions are significantly more likely to follow through with green actions (Van Phuong et al., 2025; Roh et al., 2022; Rasheed et al., 2024). Based on this, the following hypothesis is proposed:

H20: Green purchase intention has a significant and positive influence on green purchase behavior.

The adoption of circular fashion is primarily constrained by its higher costs. However, consumers' willingness to pay a price premium is a critical determinant of translating pro-environmental attitudes into actual purchasing behavior, particularly because green alternatives often cost more than traditional products, making willingness to pay a decisive factor in purchase decisions (Helinski et al., 2025; Nazmi & Kurniawati, 2024). Although price sensitivity can hinder green behavior, consumers with strong environmental values and knowledge are more likely to accept higher prices as a trade-off for sustainability (Hassan et al., 2022; Sági et al., 2025). While some recent findings, such as Rasheed et al. (2024), indicate that willingness to pay may not always moderate the link between intention and behavior, earlier studies

suggest otherwise. Research by Chaudhary and Bisai (2018), Yadav and Pathak (2017), and Nazmi and Kurniawati (2024) has found that willingness to pay enhances the strength of the relationship between intention and action. Thus, consumers are more likely to follow through on their intentions when they are willing to pay more for eco-friendly alternatives. Hence, the last proposed hypothesis is as follows:

H21: Willingness to pay moderates the relationship between green purchase intention and green purchase behavior.

Earlier research, such as that by Rasheed et al. (2024), has explored how pro-environmental values, including environmental concern, environmental knowledge, and perceived consumer effectiveness, affect green purchase behavior, particularly through the mediating role of green purchase intention and the moderating influence of willingness to pay. However, these investigations often overlook important psychological variables from the TPB, such as subjective norms and perceived behavioral control. Additionally, the influence of trust in guiding both consumer intentions and actual decisions related to purchasing green apparel has not been sufficiently examined. Meanwhile, in previous research, TCV, in combination with the Theory of Reasoned Action (TRA), has been applied to examine the drivers of organic food purchase intentions (Roh et al., 2022). However, the findings remain limited to the food sector and cannot be readily extended to other product categories, such as environmentally friendly clothing. To address this gap, Figure 1 presents the conceptual model developed for this research, which integrates key constructs from TPB along with green value perceptions and willingness to pay.

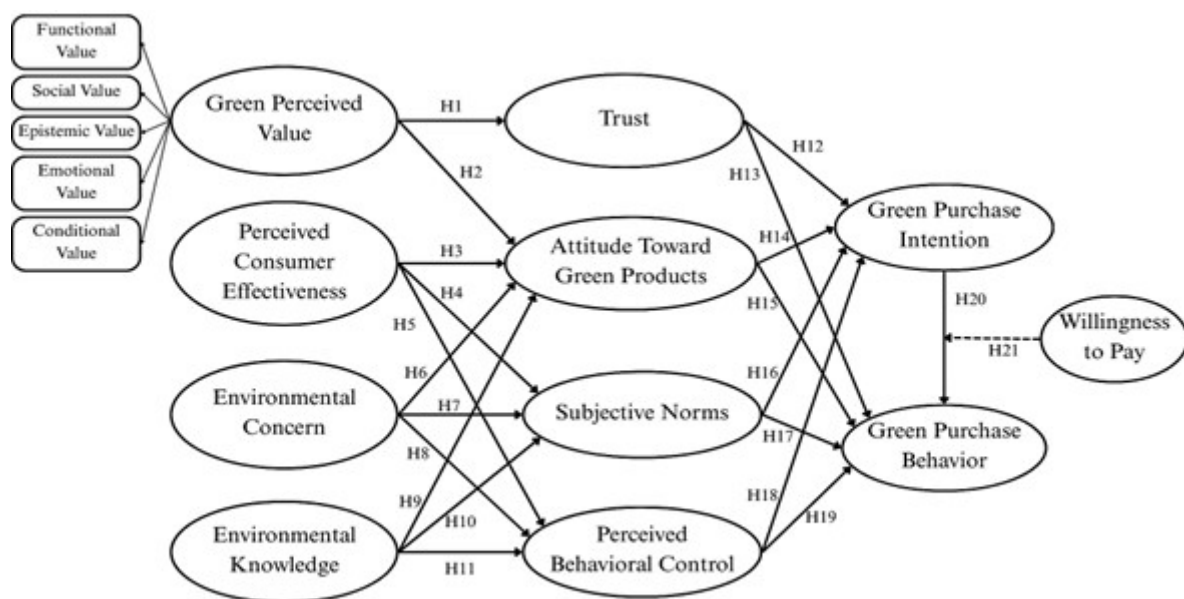


Figure 1 Conceptual Model

The conceptual model presented in Figure 1 illustrates the hypothesized relationships among the study's core variables. Green perceived value, treated as a multidimensional construct, is expected to influence both trust and consumer attitudes. The environmental constructs environmental concern, environmental knowledge, and perceived consumer effectiveness are anticipated to shape trust, attitude, subjective norms, and perceived behavioral control. These psychological variables are then hypothesized to affect green purchase intention and green purchase behavior. Additionally, the model proposes that willingness to pay serves as a moderating variable, strengthening the relationship between intention and actual purchase behavior.

The research aims to address the psychological and behavioral mechanisms underlying sustainable consumer behavior in Indonesia, particularly in the context of green apparel purchases. Although previous studies have examined pro-environmental values and their influence on green purchasing, few have integrated both TPB and value-based constructs to explain how consumers translate intention into actual buying behavior. Moreover, prior research has primarily focused on general green products, producing inconsistent findings when applied to fashion-related consumption, where the gap between intention and behavior remains underexplored.

Indonesia, as a major emerging economy and textile producer, faces increasing environmental pressure from textile waste amid growing public awareness of sustainability. However, green apparel adoption remains limited, reflecting a persistent gap between intention and behavior. Indonesian consumers are also highly price-sensitive, which may seem inconsistent with the concept of willingness to pay for green products. This contrast emphasizes the importance of examining willingness to pay as a moderating factor. In a market where price considerations strongly shape purchase decisions, understanding consumers' willingness to pay a premium is crucial to explaining why sustainable intentions do not always translate into actual purchases. Even within a price-conscious market, consumers may still pay more when they perceive added value through product quality, environmental benefits, or brand trust. Thus, investigating willingness to pay provides insight into the psychological and value-based mechanisms that influence the conversion of pro-environmental intentions into real buying behavior in Indonesia.

The integrative framework developed in the research bridges the TPB and TCV, offering theoretical originality and a more comprehensive understanding of the psychological, social, and value-driven factors influencing sustainable apparel consumption in Indonesia. The research contributes not only to the academic literature on green marketing and behavioral theories but also provides practical insights for Indonesia's fashion industry, helping brands to design more effective strategies. Overall, this research offers new empirical evidence and conceptual advancement

in explaining how and why environmentally conscious intentions can be transformed into actual green purchasing behavior within Indonesia's emerging sustainable fashion market.

METHODS

The research employs a quantitative design, using an online survey, to examine the factors influencing green purchase intention and behavior regarding green apparel in Indonesia. Data are collected through a self-administered online questionnaire distributed via various digital platforms. The target population includes Gen Z and millennial consumers aged 18–65 years residing in Indonesia who are aware of environmentally friendly apparel and have purchased such products. This age range is considered the most sustainability-oriented generation today (Rasheed et al., 2024). The sampling technique applied is non-probability purposive sampling. The screening questions are used to filter respondents, ensuring they meet the eligibility requirements related to awareness and prior purchasing behavior of green apparel.

Based on recommendations from Hair et al. (2021), the minimum sample size is determined using a 20:1 sample-to-variable ratio. With 11 variables under study, a minimum of 220 valid responses is required. Data collection is conducted over a period of three months (March to May 2025) using a cross-sectional design. The questionnaire consists of three sections: (1) screening questions aimed at filtering respondents to ensure they meet the study's criteria, (2) the main questionnaire consisting of multiple items measuring the study's key constructs, each operationalized based on validated indicators from previous studies, and (3) demographic questions to describe the sample profile and to explore potential demographic influences on green purchasing behavior.

The measurement items used to represent the constructs are adapted from previously validated sources to ensure both reliability and content validity. Green perceived value, a multidimensional construct, is measured using the instrument developed by Roh et al. (2022), and trust is measured using items from Guerreiro and Pacheco (2021). For green purchase intention, items are drawn from Chan and Lau (2002), while green purchase behavior is assessed using instruments from Kim and Damhorst (1998) and Park and Lee (2021).

Items for environmental knowledge and attitude toward green products are sourced from Kumar et al. (2017), with additional attitude toward green products items from Maloney et al. (2014). Environmental concern is measured using adapted items from Lee (2008), while perceived consumer effectiveness is measured using items from Kim and Choi (2005) and Zheng and Chi (2015). Subjective norms and perceived behavioral control follow the scales used by Nekomahmud et al. (2022). Lastly, willingness to pay is measured using adapted items from Chaudhary

and Bisai (2018). All constructs are evaluated using a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Next, the data analysis is conducted in multiple stages. It consists of an initial wording test involving five participants to identify and fix unclear or ambiguous statements, a pre-test with 30 participants to test instrument reliability and validity, and the final main test. The pre-test also includes analysis of both the measurement model (outer model) and structural model (inner model).

The primary analytical tool used for hypothesis testing in this research is Partial Least Squares Structural Equation Modeling (PLS-SEM), implemented using SmartPLS 4. This technique is chosen for its ability to handle complex structural models with numerous latent variables and indicators, particularly when the data may not meet the strict requirements of covariance-based SEM (Hair et al., 2021). The evaluation of the measurement model (outer model) includes several aspects: indicator reliability (assessed through factor loadings), internal consistency (measured using Cronbach's alpha and composite reliability), convergent validity (evaluated via Average Variance Extracted (AVE)), and discriminant validity (assessed using the Heterotrait-Monotrait (HTMT) ratio).

The assessment of the structural model (inner model) is conducted in multiple stages. Initially, multicollinearity is evaluated by calculating the Variance Inflation Factor (VIF). Values below 5 are considered acceptable, indicating the absence of multicollinearity (Hair et al., 2021). Subsequently, the hypothesized path coefficients are analyzed using a bootstrapping procedure with 10,000 subsamples, enabling reliable estimation of t-statistics, p-values, and 95% confidence intervals to test for statistical significance.

The coefficient of determination (R^2) is calculated, with values of 0.25, 0.50, and 0.75 interpreted as representing low, moderate, and high explanatory power, respectively, to assess how well the model explains the dependent variables (Hair et al., 2021). Additionally, effect sizes (f^2) are used to determine the magnitude of each independent variable's influence on the dependent constructs. The model's predictive ability is evaluated using measures such as Mean Absolute Error (MAE), Root Mean Square Error (RMSE), and Stone-Geisser's Q^2 . Then, model fit is further assessed using the Standardized Root Mean Square Residual (SRMR) metric.

This research also adopts a Higher-Order Construct (HOC) approach to capture the multidimensional nature of green perceived value, which comprises reflective dimensions such as functional, emotional, epistemic, conditional, and social values. The construct is modeled using the reflective-reflective type and analyzed via the repeated indicators technique in PLS-SEM, consistent with the guidelines provided by Hair et al. (2021). Moreover, moderation analysis is conducted using bootstrapping to test whether interaction effects are statistically

significant, and results are reported using t-values, p-values, and confidence intervals.

RESULTS AND DISCUSSION

Based on the demographic data shown in Table 1 (see Appendices), among the 469 qualified respondents, the majority are female (286, or 61%), while 183 are male (39%). Most participants are aged 18–28 years (350 respondents or 75%), representing Gen Z, followed by 29–35 years (105 respondents or 22%) and 36–44 years (14 respondents or 3%), classified as millennials. Regarding education, 232 respondents (49%) hold a bachelor's degree. The result is followed by 203 (43%) for high school, 33 (7%) for a master's degree, and 1 respondent (0.2%) for junior high school. Regarding income, 311 respondents (66%) earn IDR 1,000,000–5,000,000 per month, consistent with the employment profile: 256 respondents (55%) as students, 183 (39%) as private-sector employees, and the rest as civil servants, entrepreneurs, or unemployed. Geographically, 254 respondents (54%) live in Greater Jakarta (Jabodetabek), followed by 154 (33%) from other parts of Java, 43 (9%) from Sumatra, and 18 (4%) from other regions such as Bali, Nusa Tenggara, Kalimantan, and Sulawesi. These data indicate that green apparel buyers are primarily educated young adults in urban areas.

Table 2 (see Appendices) presents the evaluation of the reflective measurement model based on three key criteria: indicator reliability, internal consistency, and convergent validity. Indicator reliability is determined by analyzing outer loadings, with most indicators exceeding the acceptable benchmark of 0.708. Two items, ATGP-1 and PBC-1, have loadings below 0.70. However, according to Hair et al. (2021), such items can still be retained if removing them does not improve the composite reliability or AVE. In the research, both items are kept because taking them out does not improve the model's reliability or validity. Internal consistency is supported by Cronbach's alpha and composite reliability, both of which exceed the 0.60 threshold. The result signifies sufficient internal reliability across constructs. Convergent validity is evaluated using AVE values, all of which are above 0.50. The result confirms that the indicators effectively represent their corresponding latent variables.

Table 3 (see Appendices) presents the evaluation of green perceived value as HOC, which is modeled using the repeated indicators approach within the PLS-SEM framework. In this method, the indicators of the Lower-Order Components (LOCs) are reused to measure the higher-level construct. The findings show that green perceived value, designed as a reflective-reflective model with five dimensions, has strong and statistically significant loadings from each LOC to the overarching construct. All first-order indicators exhibit outer loadings greater than 0.7, and both AVE and composite reliability exceed the recommended cutoffs (AVE > 0.5; composite reliability > 0.7), confirming the validity and reliability of the green perceived value

measurement model.

Discriminant validity is assessed to evaluate whether each construct in the model is distinct from the others. This research utilizes the HTMT, which is viewed as a more robust and accurate measure compared to the traditional Fornell-Larcker criterion (Hair et al., 2021). The HTMT ratio is derived by comparing the mean correlations between items of different constructs (heterotrait) with those within the same construct (monotrait). Lower HTMT values indicate stronger discriminant validity, while values nearing 1 imply a lack of clear distinction between constructs. According to Hair et al. (2021), HTMT values under 0.85 signify satisfactory discriminant validity. As shown in Table 4 (see Appendices), all HTMT values in the research fall below the 0.85 threshold, confirming that discriminant validity is established and each latent variable is empirically distinct from the others.

Subsequently, the structural model (also known as the inner model) is analyzed to assess its predictive strength and the interrelationships among latent variables (Hair et al., 2021). A preliminary

check involves testing for multicollinearity through the calculation of VIF values. VIF scores below 5 suggest that collinearity is within an acceptable range and that multicollinearity does not pose a problem. As presented in Table 5 (see Appendices), all VIF values are well below the acceptable threshold, indicating the absence of multicollinearity issues and confirming that no variables needed to be excluded or merged.

The results of the structural model evaluation, generated using SmartPLS, are illustrated in Figure 2, and the detailed path coefficients are summarized in Table 6 (see Appendices). Out of 21 proposed hypotheses, 15 hypotheses are supported, whereas 6 are not. Several variables exhibit statistically significant and positive relationships. Green perceived value has a strong and significant impact on both trust ($\beta = 0.698, p < 0.01$) and attitude towards green products ($\beta = 0.320, p < 0.01$). Perceived consumer effectiveness is found to significantly influence attitude towards green products ($\beta = 0.321, p < 0.01$), subjective norms ($\beta = 0.332, p < 0.01$), and perceived behavioral control ($\beta = 0.342, p < 0.01$). Environmental concern significantly impacts attitude towards green products ($\beta = 0.332, p < 0.01$) and perceived behavioral control ($\beta = 0.336, p < 0.01$). Environmental knowledge significantly impacts perceived behavioral control ($\beta = 0.342, p < 0.01$). Trust significantly impacts green purchase intention ($\beta = 0.093, p < 0.01$) and green purchase behavior ($\beta = 0.157, p < 0.01$). Attitude towards green products significantly impacts green purchase intention ($\beta = 0.157, p < 0.01$) and green purchase behavior ($\beta = 0.290, p < 0.01$). Social norms significantly impacts green purchase intention ($\beta = 0.016, p < 0.01$) and green purchase behavior ($\beta = 0.152, p < 0.01$). Perceived behavioral control significantly impacts green purchase intention ($\beta = 0.073, p < 0.01$) and green purchase behavior ($\beta = 0.152, p < 0.01$). Green purchase intention significantly impacts green purchase behavior ($\beta = 0.399, p < 0.01$). Willingness to pay significantly impacts green purchase behavior ($\beta = -0.261, p < 0.01$).

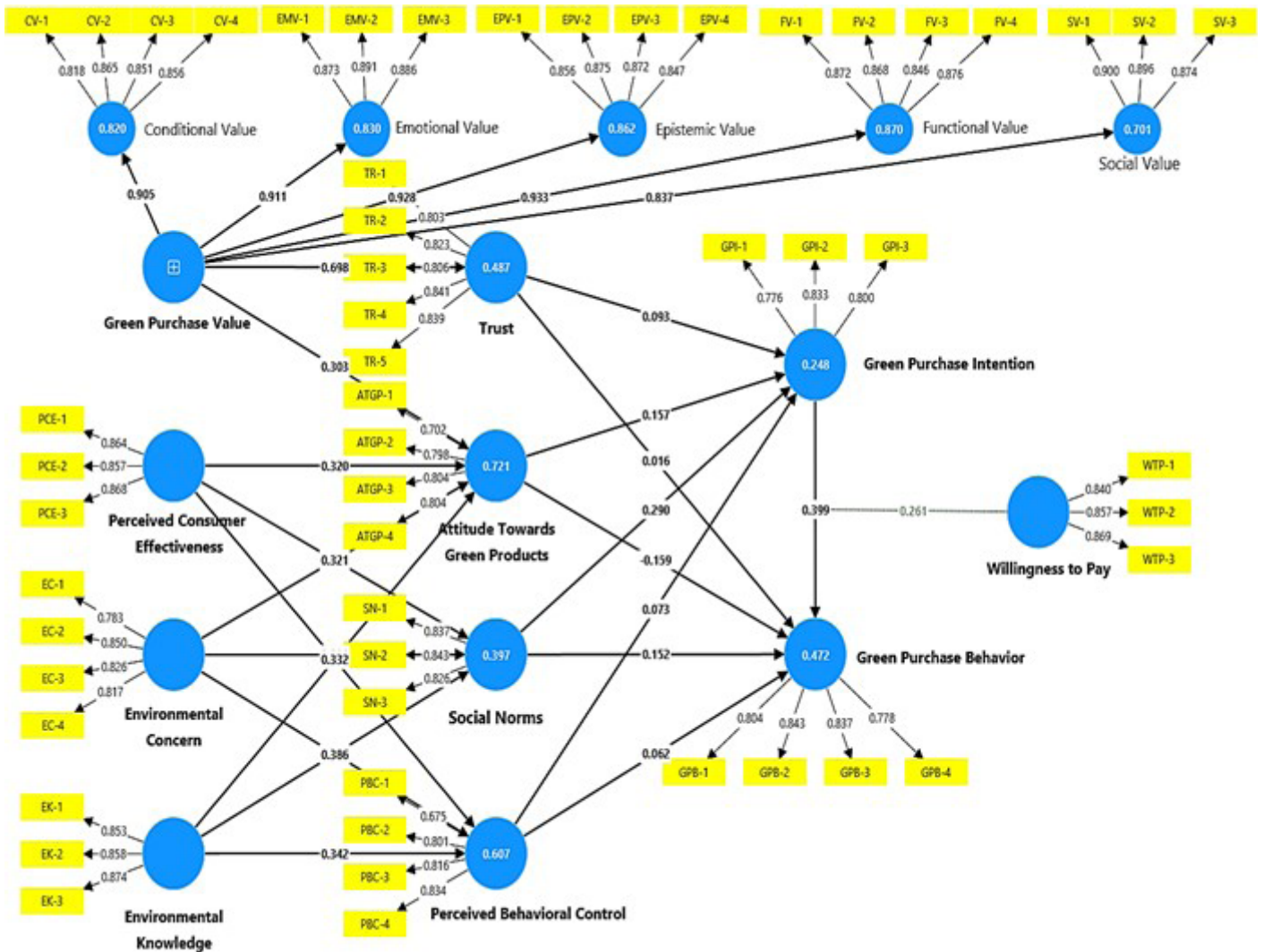


Figure 2 Structural Model

towards green products ($\beta = 0.318, p < 0.01$), SN ($\beta = 0.290, p < 0.01$), and perceived behavioral control ($\beta = 0.386, p < 0.01$). Likewise, environmental knowledge shows meaningful associations with attitude towards green products ($\beta = 0.332, p < 0.01$), social norms ($\beta = 0.274, p < 0.01$), and perceived behavioral control ($\beta = 0.342, p < 0.01$). Within the TPB model, social norms has a significant effect on green purchase intention ($\beta = 0.290, p < 0.01$) and green purchase behavior ($\beta = 0.152, p < 0.05$). Furthermore, green purchase intention strongly influences green purchase behavior ($\beta = 0.399, p < 0.01$), and willingness to pay significantly moderates the link between green purchase intention and green purchase behavior ($\beta = 0.261, p < 0.01$).

On the other hand, six hypotheses are not validated, as their p-values exceed the threshold of 0.05, despite having either positive or negative path coefficients. Specifically, H12 (trust \rightarrow green purchase intention, $\beta = 0.093, p > 0.05$), H13 (trust \rightarrow green purchase behavior, $\beta = 0.016, p > 0.05$), H14 (attitude towards green products \rightarrow green purchase intention, $\beta = 0.157, p > 0.05$), and H15 (attitude towards green products \rightarrow green purchase behavior, $\beta = -0.159, p > 0.05$) are rejected, implying that neither trust nor attitude has a significant role in shaping green purchase intention or behavior in this context. Similarly, H18 (perceived behavioral control \rightarrow green purchase intention, $\beta = 0.073, p > 0.05$) and H19 (perceived behavioral control \rightarrow green purchase behavior, $\beta = 0.062, p > 0.05$) are not supported, indicating a minimal influence of perceived behavioral control on intention and action.

The research connects value-based evaluations to the belief–intention–behavior chain outlined in the TPB. Specifically, green perceived value operates as an upstream value appraisal that informs TPB beliefs, demonstrating that consumers must first recognize environmental, functional, and social value before favorable beliefs can emerge. In price-sensitive categories like apparel, these value appraisals are essential precursors, but their influence on intentions and behavior is contingent on additional contextual factors.

The results strongly support the primacy of normative influence in collectivist contexts, where social approval and expectations serve as dominant drivers in the pathway from intention to action. In such settings, subjective norms, overwhelm attitudinal and control beliefs shape behavioral intention. Willingness to pay further clarifies the intention–behavior conversion by functioning as a financial catalyst. When consumers are willing to pay a premium price, the friction caused by cost salience is reduced, making it more likely for intentions to translate into actual purchases. The research finding that trust and attitudes may not directly predict intention or behavior is theoretically informative. It reflects the credence-goods dynamic. Even when brands are trusted and attitudes are positive, consumers may rely more on normative cues and economic feasibility under conditions of

information asymmetry and price pressure.

The current findings supported the critical role of subjective norms in shaping both green purchase intention and green purchase behavior, highlighting the influence of perceived social pressure on environmentally conscious consumer decisions. When individuals perceive approval or encouragement from their social circles, such as friends, family, or peer groups, they are more likely to intend to and actually engage in green purchasing behavior. This result is consistent with prior research by Roh et al. (2022) and Nekomahmud et al. (2022), which confirms the positive and significant role of subjective norms in sustainable consumption. According to TPB, this influence arises from normative beliefs and the motivation to comply, especially in collectivist cultures like Indonesia, where conformity and social harmony play central roles in shaping individual behavior.

In contrast to the strong role of subjective norms, the present findings diverge from several TPB assumptions regarding the role of trust. While previous studies, such as Roh et al. (2022), have reported a significant positive relationship between trust and green purchase intention, this research does not. Instead, the results align with Tarabieh (2021), suggesting that trust alone may not serve as a reliable predictor of intention or behavior in the context of green apparel. This discrepancy can stem from consumer skepticism or uncertainty about the authenticity of environmental claims, particularly in markets where greenwashing or lack of product transparency undermines brand credibility and weakens consumer confidence.

Similarly, the results challenge the predictive strength of other core TPB constructs. Despite being theoretically expected to influence intention and behavior, attitude toward green products shows no significant impact in the research. This finding diverges from the results of Rasheed et al. (2024) and Nekomahmud et al. (2022) but aligns with Margariti et al. (2024), noting that insufficient information or skepticism toward green claims can prevent positive attitudes from translating into actual behavior. In the Indonesian context, it may also be attributed to sample demographics and product characteristics. The majority of respondents are young consumers (Gen Z and millennials) with moderate to low income levels, who tend to express positive attitudes toward sustainability but often prioritize affordability over ethical considerations when making purchases. Moreover, green apparel as a product category is still emerging in Indonesia, with limited accessibility, higher prices, and ambiguous eco-labeling practices that may weaken the link between favorable attitudes and purchase actions.

Perceived behavioral control also fails to show significant effects on either green purchase intention or green purchase behavior. This result echoes findings by Ogiemwonyi (2024), suggesting that situational barriers, such as limited product availability, high prices, or lack of convenient access, can diminish consumers' perceived ability to engage in sustainable

purchasing. These factors appear particularly relevant in the Indonesian context, where eco-friendly products are still relatively scarce, often more expensive, and not easily accessible. Furthermore, Indonesia's collectivist culture reinforces social conformity, meaning that behavioral decisions are more strongly influenced by subjective norms and collective expectations than by individual efficacy (Puspita, 2024). This cultural tendency helps to explain why perceived behavioral control does not emerge as a significant predictor in the research. In contrast, subjective norms show a strong effect on intention and behavior.

Table 7 (see Appendices) presents the results of the coefficient of determination (R^2) for each endogenous construct in the structural model. Attitude towards green products ($R^2 = 0.720$) and perceived behavioral control ($R^2 = 0.607$) show moderate explanatory power suggesting that the antecedent variables included in the model are able to explain a substantial proportion of variance in consumers' attitudes toward green products and perceived behavioral control. Meanwhile, green purchase behavior ($R^2 = 0.446$), green purchase intention ($R^2 = 0.317$), subjective norms ($R^2 = 0.397$), and trust ($R^2 = 0.489$) have weaker predictive power, these findings suggest that although the model captures some relevant determinants, additional variables may further enhance the prediction of actual green purchasing behavior and trust formation.

Meanwhile, Table 8 (see Appendices) displays the results of the effect size (F^2) analysis, which measures the contribution of each exogenous variable to the R^2 value of its associated endogenous construct. The F^2 analysis shows that green perceived value has a strong effect on trust ($F^2 = 0.955$). Similarly, environmental knowledge has a large effect on attitude ($F^2 = 0.362$). Most other paths show small to moderate effects, suggesting a moderate contribution of individual predictors to the dependent constructs.

Table 9 (see Appendices) presents the evaluation results related to the predictive relevance and overall model fit of the structural model. In terms of predictive capability, all Q^2 predict values are above zero, signifying that the model holds adequate predictive relevance beyond the sample data. Nevertheless, when comparing the Root Mean Squared Error (RMSE) and Mean Absolute Error (MAE) values between the PLS-SEM model and a Linear Model (LM), the PLS-SEM model shows greater error margins in most indicators (15 out of 23), suggesting only moderate predictive accuracy. As for model fit, the Standardized Root Mean Square Residual (SRMR) for both the saturated and estimated models remains under 0.1 (specifically 0.06 and 0.07), which is indicative of a satisfactory fit. The Normed Fit Index (NFI) stands at 0.80, placing it within the range of marginal fit, meaning the model fit is acceptable though not exemplary. Overall, the model exhibits decent structural robustness, fair predictive performance, and an acceptable level of fit to the dataset.

CONCLUSION

The research offers significant theoretical and practical contributions to the understanding of sustainable fashion consumption in Indonesia. By empirically validating the TPB framework, it demonstrates that green purchase intention robustly predicts actual green purchasing behavior, particularly when reinforced by strong subjective norms and willingness to pay. The findings highlight the dominant role of social influence in collectivist settings, where subjective norms decisively shape consumers' intentions and actions, and willingness to pay serves as a crucial moderator, enabling intentions to translate into purchases when perceived value is high. Notably, the lack of direct effects from trust, attitude, and perceived behavioral control exposes a critical gap between positive perceptions and actual behavior, underscoring the importance of normative and economic factors over individual attitudes in this context. The research also advances the literature by identifying key antecedents, green perceived value, environmental concern, environmental knowledge, and perceived consumer effectiveness that positively shape TPB predictors, emphasizing the interplay of emotional, cognitive, and efficacy-related factors in driving pro-environmental consumption.

From a managerial perspective, the findings provide valuable strategic guidance for brands seeking to strengthen their position in Indonesia's emerging green apparel segment. Marketers should prioritize enhancing green perceived value by communicating both the functional and symbolic benefits of their products. Since epistemic value emerges as an important factor, companies are encouraged to design educational marketing initiatives, such as campaigns that explain sustainable materials, zero-waste production, or circular fashion models, to increase consumer curiosity and perceived knowledge about green apparel.

Marketers should also reinforce perceived consumer effectiveness by demonstrating how individual actions contribute to broader environmental outcomes. It can be achieved through transparent impact storytelling, post-purchase engagement campaigns, or the use of visual impact metrics such as carbon footprint reductions. By empowering consumers and highlighting their role in positive change, brands can strengthen the link between individual agency and environmental impact, encouraging repeat purchases. Furthermore, the strong influence of subjective norms underscores the need to leverage social influence in marketing strategies. Collaborations with trusted influencers, local community figures, and sustainability advocates can help to normalize green consumption. Peer-driven campaigns, sustainability challenges, or eco-community memberships can foster a sense of belonging and social validation, making sustainable fashion part of a shared identity rather than an isolated choice.

Finally, the significant moderating role of willingness to pay indicates that consumers are open to paying more for green apparel when they perceive strong added value. Marketers can use tiered pricing strategies, limited eco-collections, or transparent cost breakdowns to explain the rationale for premium pricing. Emotional branding that connects eco-fashion with personal values, such as care for the planet or social responsibility, can further justify the price premium and enhance brand loyalty. Marketing communication should also consider demographic and cultural factors. For example, for Gen Z and millennials with moderate to low incomes, brands should offer accessible entry-level sustainable products or installment-based payment options to reduce price barriers. Emphasizing community engagement, collective impact, and social recognition aligns well with Indonesia's collectivist culture, making sustainability both aspirational and culturally relevant.

The research also has several limitations that should be addressed in future research. The use of self-report questionnaires may introduce biases such as social desirability bias. Future studies are encouraged to minimize this by incorporating reverse-coded items, neutral statements, or third-person perspectives. Next, the sample is limited to consumers who have previously purchased eco-friendly clothing. So, it restricts generalizability. Future research should include consumers regardless of prior experience to capture broader perspectives. Additionally, the research focuses only on environmentally friendly clothing based on material composition, without accounting for sustainable production processes or the impact of greenwashing practices. Future research should adopt a clearer definition of green products and assess consumers' sensitivity to misleading claims.

Geographically, the research does not distinguish among regions in Indonesia, even though local norms and environments may influence consumer behavior. Future studies can use regional segmentation to compare behaviors across different areas. Moreover, the research groups respondents broadly within Gen Z and millennials, with most earning monthly incomes of IDR 1,000,000–5,000,000, thereby limiting the inclusion of older or higher-income segments. Future studies are encouraged to conduct multi-group analyses by age and income and to consider monthly expenditure as a more accurate reflection of consumers' purchasing power when assessing willingness to pay and green purchase behavior.

AUTHOR CONTRIBUTIONS

Conceived and designed the analysis, A. D. Z. and S. R. H. H.; Collected the data, A. D. Z.; Contributed data or analysis tools, A. D. Z.; Performed the analysis, A. D. Z.; Wrote the paper, A. D. Z.; Was responsible for supervision, manuscript review, and providing editorial guidance, S. R. H. H.; and Revised the article, A. D. Z.

DATA AVAILABILITY

The authors confirm that the data supporting the findings of the research are available within the article [and/or] its supplementary materials.

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APPENDICES

Table 1 Respondents' Distribution Frequency

Characteristic	Category	Total	%
Gender	Male	183	39.0
	Female	286	61.0
Age	18–28 years	350	75.0
	29–35 years	105	22.0
	36–44 years	14	3.0
Education Level	Junior high school	1	0.2
	Senior high school	203	43.3
	Bachelor's degree	232	49.5
	Master's degree	33	7.0
Monthly Income	IDR 1,000,000–5,000,000	311	66.0
	IDR 5,000,000–10,000,000	75	16.0
	IDR 10,000,000–20,000,000	65	14.0
	IDR 20,000,000–25,000,000	6	1.0
	> IDR 50,000,000	12	3.0
Occupation	Private Employee	184	39.0
	Civil Servant	17	4.0
	Student	256	55.0
	Entrepreneur	6	1.0
	Unemployed	6	1.0
Domicile	Bali and Nusa Tenggara	17	4.0
	Greater Jakarta (Jabodetabek)	234	50.0
	Java (outside Jabodetabek)	156	33.0
	Kalimantan	8	2.0
	Sulawesi	11	2.0
	Sumatra	43	9.0

Table 2 Results of Model Measurement
(Internal Reliability, Internal Consistency Reliability, and Convergent Validity)

Variable (Source)	Item	Outer Loadings	α	Composite Reliability	Average Variance Extracted (AVE)
Attitude towards Green Products (Kumar et al., 2017; Maloney et al., 2014)	ATGP-1: Green products help to reduce pollution	0.702	0.782	0.860	0.605
	ATGP-2: Green products reduce resource overuse	0.798			
	ATGP-3: Green products conserve resources	0.804			
	ATGP-4: I feel morally right in buying green apparel	0.804			
Environmental Concern (Lee, 2008)	EC-1: I am concerned about environmental degradation	0.783	0.837	0.891	0.671
	EC-2: I think about improving the environment	0.850			
	EC-3: I am emotionally involved in environmental issues	0.826			
	EC-4: I care deeply about the environment	0.817			
Environmental Knowledge (Kumar et al., 2017)	EK-1: I know green products that reduce pollution	0.853	0.827	0.896	0.743
	EK-2: I know green products that reduce resource use	0.858			
	EK-3: I know green products that help to conserve nature	0.874			
Green Purchase Behavior (Kim & Damhorst, 1998; Park & Lee, 2021)	GPB-1: I prefer apparel with green labels	0.804	0.833	0.888	0.666
	GPB-2: I check eco info before buying	0.843			
	GPB-3: I buy organic, natural fiber clothing	0.837			
	GPB-4: I buy low/no-dye eco-friendly apparel	0.778			
Green Purchase Intention (Chan & Lau, 2002)	GPI-1: I intend to buy less-polluting apparel	0.776	0.726	0.845	0.645
	GPI-2: I consider switching to green brands	0.833			
	GPI-3: I plan to shift to green apparel	0.800			
Perceived Behavioral Control (Nekmahmud et al., 2022)	PBC-1: I have the resources and the willingness to buy green	0.675	0.788	0.864	0.615
	PBC-2: I know where to buy green apparel	0.801			
	PBC-3: I feel in control of green purchase decisions	0.816			
	PBC-4: I am confident about buying green apparel	0.834			
Perceived Consumer Effectiveness (Kim & Choi, 2005; Zheng & Chi, 2015)	PCE-1: I believe that the purchase helps to protect the environment	0.864	0.829	0.897	0.745
	PCE-2: I believe that green apparel has a positive impact	0.857			
	PCE-3: I believe that individuals can influence problems	0.868			
Subjective Norms (Nekmahmud et al., 2022)	SN-1: Important people support green purchases	0.837	0.784	0.874	0.698
	SN-2: Others will follow my green behavior	0.843			
	SN-3: Family/friends prefer I buy green products	0.826			
Trust (Guerreiro & Pacheco, 2021)	TR-1: I trust the brand's environmental commitment	0.803	0.881	0.913	0.677
	TR-2: I trust the brand's environmental performance	0.823			
	TR-3: I trust the brand's environmental claims	0.806			
	TR-4: I trust the brand that meets expectations	0.841			
	TR-5: I trust a brand that keeps environmental promises	0.839			
Willingness to Pay (Chaudhary & Bisai, 2018)	WTP-1: I am willing to pay more for green apparel	0.840	0.817	0.891	0.732
	WTP-2: I am willing to support sustainability through price	0.857			
	WTP-3: I feel proud to own green apparel despite the higher price	0.869			

Table 3 Results of Internal Reliability, Internal Consistency Reliability, and Convergent Validity for Green Purchase Value as Higher Order Variable (HOC)

Variable (Source)	Item	Outer Loadings	α	Composite Reliability	Average Variance Extracted (AVE)
Green Perceived Value (Roh et al., 2022)	CV-1: I will buy green apparel if pollution worsens	0.818	0.964	0.967	0.619
	CV-2: I will buy if the product is subsidized	0.865			
	CV-3: I will buy with a discount/promotion	0.851			
	CV-4: I will buy if green apparel is available	0.856			
	EMV-1: I feel contributing to something better	0.873			
	EMV-2: I feel morally right buying green over conventional	0.891			
	EMV-3: I feel like a better person with green apparel	0.886			
	EPV-1: I seek information about different brands before buying	0.856			
	EPV-2: I gather lots of product information	0.875			
	EPV-3: I am willing to search for new information	0.872			
	EPV-4: I enjoy exploring new and different things	0.847			
	FV-1: Green apparel is well-made	0.872			
	FV-2: Green apparel meets quality standards	0.868			
	FV-3: Green apparel is reasonably priced	0.846			
	FV-4: Green apparel offers good value for money	0.876			
	SV-1: I feel accepted when buying green apparel	0.900			
	SV-2: It creates a good impression on others	0.896			
	SV-3: I gain social approval from others	0.874			

Note: CV: Conditional Value, EMV: Emotional Value, EPV: Epistemic Value, FV: Functional Value, and SV: Social Value.

Table 4 Heterotrait-Monotrait Ratio (HTMT) Results

	ATGP	EC	EK	GPB	GPI	GPV*	PBC	PCE	SN	TR
EC	0.717									
EK	0.669	0.256								
GPB	0.329	0.267	0.229							
GPI	0.524	0.360	0.330	0.661						
GPV*	0.643	0.328	0.247	0.212	0.311					
PBC	0.841	0.705	0.624	0.418	0.532	0.405				
PCE	0.724	0.388	0.274	0.212	0.356	0.321	0.704			
SN	0.622	0.554	0.505	0.457	0.583	0.285	0.816	0.591		
TR	0.647	0.318	0.362	0.250	0.372	0.754	0.505	0.407	0.363	
WTP	0.390	0.276	0.346	0.520	0.248	0.253	0.338	0.220	0.225	0.278

Note: *GPV as higher order variable, GPV: Green Purchase Value, ATGP: Attitude Toward Green Products, PCE: Perceived Consumer Effectiveness, SN: Subjective Norms, PBC: Perceived Behavioral Control, EC: Environmental Concern, EK: Environmental Knowledge, GPI: Green Purchase Intention, GPB: Green Purchase Behavior, and WTP: Willingness to Pay.

Table 5 Multicollinearity Assessment Result
(Variance Inflation Factor (VIF) Value)

Relationship	VIF
ATGP → GPB	2.230
ATGP → GPI	2.137
EC → ATGP	1.192
EC → PBC	1.142
EC → SN	1.142
EK → ATGP	1.100
EK → PBC	1.080
EK → SN	1.080
GPI → GPB	1.339
GPV → ATGP	1.170
GPV → TR	1.000
PBC → GPB	2.388
PBC → GPI	2.364
PCE → ATGP	1.192
PCE → PBC	1.149
PCE → SN	1.149
SN → GPB	1.823
SN → GPI	1.707
TR → GPB	1.450
TR → GPI	1.430
WTP → GPB	1.148

Note: GPV: Green Purchase Value, ATGP: Attitude Toward Green Products, PCE: Perceived Consumer Effectiveness, SN: Subjective Norms, PBC: Perceived Behavioral Control, EC: Environmental Concern, EK: Environmental Knowledge, GPI: Green Purchase Intention, GPB: Green Purchase Behavior, and WTP: Willingness to Pay.

Table 6 Hypothesis Testing Results

No.	Path	Path Coefficient	T-Value	P-Value	Results
H1	GPV → TR	0.698	25.969	0.000	Accepted
H2	GPV → ATGP	0.303	12.686	0.000	Accepted
H3	PCE → ATGP	0.320	12.536	0.000	Accepted
H4	PCE → SN	0.321	10.106	0.000	Accepted
H5	PCE → PBC	0.369	12.486	0.000	Accepted
H6	EC → ATGP	0.318	11.134	0.000	Accepted
H7	EC → SN	0.290	8.556	0.000	Accepted
H8	EC → PBC	0.386	15.120	0.000	Accepted
H9	EK → ATGP	0.332	14.136	0.000	Accepted
H10	EK → SN	0.274	7.811	0.000	Accepted
H11	EK → PBC	0.342	11.306	0.000	Accepted
H12	TR → GPI	0.093	1.741	0.082	Rejected
H13	TR → GPB	0.016	0.269	0.788	Rejected
H14	ATGP → GPI	0.157	1.886	0.059	Rejected
H15	ATGP → GPB	-0.159	1.823	0.068	Rejected
H16	SN → GPI	0.290	4.596	0.000	Accepted
H17	SN → GPB	0.152	2.363	0.018	Accepted
H18	PBC → GPI	0.073	1.005	0.315	Rejected
H19	PBC → GPB	0.062	0.745	0.456	Rejected
H20	GPI → GPB	0.399	6.224	0.000	Accepted
H21	WTP × GPI → GPB	0.26	4.209	0.000	Accepted

Note: GPV: Green Purchase Value, ATGP: Attitude Toward Green Products, PCE: Perceived Consumer Effectiveness, SN: Subjective Norms, PBC: Perceived Behavioral Control, EC: Environmental Concern, EK: Environmental Knowledge, GPI: Green Purchase Intention, GPB: Green Purchase Behavior, and WTP: Willingness to Pay.

Table 7 Coefficient of Determination (R²) Results

Latent Variable	R ²
ATGP	0.722
GPB	0.446
GPI	0.317
PBC	0.609
SN	0.397
TR	0.489

Note: ATGP: Attitude Toward Green Products, SN: Subjective Norms, PBC: Perceived Behavioral Control, GPI: Green Purchase Intention, GPB: Green Purchase Behavior, and WTP: Willingness to Pay.

Table 8 Effect Size (F²) Results

Path	F-Square
ATGP → GPI	0.016
EC → ATGP	0.305
EC → PBC	0.335
EC → SN	0.123
EK → ATGP	0.362
EK → PBC	0.278
EK → SN	0.116
GPI → GPB	0.327
GPV → ATGP	0.282
GPV → TR	0.955
PBC → GPI	0.001
PCE → ATGP	0.309
PCE → PBC	0.304
PCE → SN	0.149
SMU → GPI	0.035
SN → GPI	0.046
TR → GPI	0.000
WTP → GPB	0.161

Note: GPV: Green Purchase Value, ATGP: Attitude Toward Green Products, PCE: Perceived Consumer Effectiveness, SN: Subjective Norms, PBC: Perceived Behavioral Control, EC: Environmental Concern, EK: Environmental Knowledge, GPI: Green Purchase Intention, GPB: Green Purchase Behavior, and WTP: Willingness to Pay.

Table 9 Q² Predict, Root Mean Squared Error (RMSE), and Mean Absolute Error (MAE) Results

Indicator	Q ² Predict	PLS-SEM RMSE	LM RMSE	PLS-SEM MAE	LM MAE
ATGP-1	0.302	0.633	0.653	0.471	0.488
ATGP-2	0.405	0.615	0.628	0.465	0.487
ATGP-3	0.481	0.604	0.608	0.466	0.468
ATGP-4	0.534	0.637	0.654	0.483	0.491
GPB-1	0.173	0.664	0.661	0.448	0.481
GPB-2	0.132	0.795	0.785	0.497	0.561
GPB-3	0.129	0.740	0.742	0.461	0.511
GPB-4	0.225	0.682	0.709	0.498	0.518
GPI-1	0.026	0.621	0.634	0.530	0.539
GPI-2	0.181	0.570	0.596	0.369	0.418
GPI-3	0.226	0.539	0.566	0.329	0.388
PBC-1	0.198	0.726	0.711	0.503	0.517
PBC-2	0.387	0.616	0.633	0.436	0.446
PBC-3	0.423	0.620	0.613	0.471	0.469
PBC-4	0.471	0.643	0.655	0.489	0.489
SN-1	0.267	0.748	0.761	0.542	0.564
SN-2	0.222	0.866	0.852	0.636	0.651
SN-3	0.320	0.770	0.762	0.587	0.580
TR-1	0.273	0.741	0.754	0.586	0.583
TR-2	0.326	0.724	0.722	0.581	0.570
TR-3	0.288	0.823	0.824	0.646	0.640
TR-4	0.347	0.764	0.758	0.609	0.593
TR-5	0.399	0.789	0.774	0.634	0.609

Note: ATGP: Attitude Toward Green Products, SN: Subjective Norms, PBC: Perceived Behavioral Control, GPI: Green Purchase Intention, GPB: Green Purchase Behavior, WTP: Willingness to Pay, PLS-SEM RMSE: Root Mean Squared Error in PLS-SEM Model, LM RMSE: Root Mean Squared Error in Linear Model, PLS-SEM MAE: Mean Absolute Error in PLS-SEM Model, and LM MAE: Mean Absolute Error in Linear Model.