

# Eco-Friendly Fashion and Personal Values: Revealing the Hidden Forces behind Attitudes and Purchase Intentions

Yossie Rossanty\*, Muhammad Dharma Tuah Putra Nasution

Department of Management, Universitas Pembangunan Panca Budi, Medan, North Sumatera, Indonesia. \*Email: yosunpab@gmail.com

Received: 24 September 2024

Accepted: 02 January 2025

DOI: <https://doi.org/10.32479/irmm.17900>

## ABSTRACT

The aim of this study is to investigate how personal value orientations—altruistic, biospheric, and egoistic—influence consumers' attitudes towards eco-friendly fashion brands and their purchase intentions. Data were gathered through a survey of 389 potential consumers in Indonesia, selected via simple random sampling and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings reveal that personal value orientations significantly impact both attitudes and purchase intentions towards eco-friendly fashion brands. Although the values were not assessed individually, they collectively represent consumers' overall value orientations. Additionally, pro-environmental attitudes emerged as a crucial determinant of purchase intentions. The demographic analysis provided further insights into attitudes and behaviors related to eco-friendly practices. The study highlights practical implications for marketers, emphasizing the importance of aligning promotional strategies with consumers' personal values to enhance engagement and purchase intentions. Furthermore, a comprehensive understanding of demographic variables is essential for crafting targeted marketing campaigns. This research contributes to the Value-Belief-Norm (VBN) theory by providing empirical evidence on how personal value orientations shape consumer attitudes and purchase intentions towards eco-friendly fashion. The study acknowledges limitations and suggests that future research should include diverse cultural and geographic samples and explore other eco-friendly product categories.

**Keywords:** Eco-Friendly Fashion, Personal Value Orientations, Altruistic, Biospheric, Egoistic, Pro-Environmental Purchase Intention, Pro-Environmental Attitudes

**JEL Classification:** Q56, M31, D12

## 1. INTRODUCTION

Several studies have explored the drivers behind consumers' pro-environmental purchase intentions. For instance, Grimmer and Miles (2016) investigate the intention-behavior gap in pro-environmental consumer behavior, highlighting the mediating role of implementation intentions and the moderating effects of factors such as actual behavioral control and situational contexts. Lee (2017) contributes by examining comparative green purchase intentions between Korean and Chinese consumers, emphasizing the influence of collectivism on these intentions. Additionally, Onel (2016) underscores the significance of personal norms in shaping pro-environmental purchasing behavior, integrating

personal norms with the theory of planned behavior to explain eco-conscious consumer decisions.

Sheng et al. (2019) investigate the role of cultural values and environmental knowledge in shaping green purchasing intentions, emphasizing the importance of attitudes toward green products in driving consumer interest in environmentally friendly options. Similarly, Mazhar et al. (2022) highlight the role of pro-environmental self-identity and environmental concern in predicting green purchase intentions, reinforcing the connection between personal psychological factors and sustainable consumption choices. Wang et al. (2023) offer insights from the value-belief-norm theory, explaining how value components,

belief components, personal norms, and social norms collectively influence green purchase intentions, particularly in the context of selecting green hotels.

Ahn (2023) focuses on understanding the motivations behind pro-environmental behavior and its relationship to individuals' value orientations and intentions to purchase eco-friendly products. Duong (2023) addresses the attitude-intention-behavior gap in green consumption, highlighting the complexities of translating positive attitudes toward sustainability into actual purchasing behaviors. Copeland and Bhaduri (2019) extend social exchange theory to explore consumers' relationships with pro-environmental brands, emphasizing the roles of knowledge, skepticism, and brand familiarity in shaping patronage intentions.

Park and Ha (2012) investigate the factors influencing pro-environmental behavior, showcasing higher levels of cognitive attitude, affective attitude, social norm, personal norm, and recycling intention among green product purchasers. Hussain and Huang (2022) further emphasize the impact of individual consumer values, social norms, and cultural values on green purchase intentions, highlighting the diverse factors that influence consumers' decisions toward sustainable products. Collectively, these studies underscore the multifaceted nature of the drivers behind pro-environmental purchase intentions, which include personal values, attitudes, environmental concerns, cultural values, and social norms.

However, previous studies have also revealed deficiencies in fully validating the impact of personal values on pro-environmental behaviors and purchase intentions. While theoretical frameworks have suggested that altruistic and biospheric values play a significant role in promoting pro-environmental actions, empirical validation of these assumptions has been limited (Groot and Steg, 2009). Additionally, the influence of egoistic values, which focus on individual benefits rather than environmental concerns, has not been extensively explored in relation to pro-environmental behaviors (Schuitema and Groot, 2014). This gap in research highlights the need for a comprehensive investigation into how different personal values, including altruism, biospheric, and egoistic values, influence individuals' attitudes toward pro-environmental purchase intentions (Wang et al., 2020). Therefore, this study aims to examine how personal value orientations (altruism, biospheric, and egoistic) influence consumers' pro-environmental attitudes and their pro-environmental purchase intentions. The remainder of the paper is organized as follows: The next section offers a comprehensive literature review, followed by a detailed explanation of the research methodology. The subsequent section presents the results, and the paper concludes with a discussion of theoretical contributions, implications, and limitations.

## 2. LITERATURE REVIEW

### 2.1. Value-Belief-Norm (VBN) Theory

The Value-Belief-Norm (VBN) theory is a conceptual framework that elucidates the relationship between individual values, beliefs, and personal norms in driving pro-environmental behaviors.

Developed by Stern and Dietz (1994), the VBN theory posits that personal values, such as biospheric, altruistic, and egoistic values, influence beliefs about environmental issues, which, in turn, shape personal norms regarding environmental responsibility (Slimak and Dietz, 2006; Yildirim and Semiz, 2019; Jansson et al., 2011). This sequential relationship suggests that individuals who hold strong environmental values are more likely to develop beliefs that recognize the importance of environmental protection, leading to a heightened sense of personal obligation to engage in pro-environmental actions (Kim and Kim, 2018; Hartmann et al., 2018).

Empirical research has consistently validated the Value-Belief-Norm (VBN) theory across diverse contexts, affirming its utility in predicting environmentally significant behaviors. Studies have demonstrated that individuals' pro-environmental intentions are profoundly influenced by personal norms, which are, in turn, shaped by their core values and beliefs (Kim and Kim, 2018; Hartmann et al., 2018). This theoretical framework has been successfully applied to explore behaviors in various settings, including consumer attitudes towards eco-innovations and sustainable practices at food festivals (Kim and Kim, 2018; Jansson et al., 2010). Moreover, the VBN theory has been pivotal in elucidating the psychological mechanisms underlying environmental decision-making, emphasizing the role of normative beliefs and social influences in promoting environmentally responsible behaviors (Fang et al., 2017; Yildirim and Semiz, 2019; Hartmann et al., 2018).

The VBN theory also underscores the significance of contextual factors, such as social norms and ecological risk perceptions, in shaping individual behaviors (Slimak and Dietz, 2006). By incorporating these dimensions, the VBN framework offers a comprehensive understanding of how personal and social factors interact to drive environmental actions. Research indicates that individuals are more likely to engage in sustainable practices when they perceive strong social support for such behaviors, thereby reinforcing their personal norms and values (Fang et al., 2017; Chua et al., 2016). In summary, the VBN theory stands as a robust model for examining the complexities of environmental behavior, providing valuable insights into the motivations that compel individuals to act in favor of ecological sustainability.

### 2.2. Personal Value Orientation

Consumers' personal values can be broadly categorized into three dimensions: altruistic, biospheric, and egoistic. Altruistic values reflect individuals' concern for others and emphasize a selfless orientation toward environmental issues (Marshall et al., 2019). Biospheric values signify a deep-rooted concern for the environment itself, encompassing a sense of responsibility towards nature and its preservation (Marshall et al., 2019). Egoistic values, on the other hand, revolve around personal resources and self-enhancement, focusing on how environmental actions can benefit oneself (Stern and Dietz, 1994).

Research by Stern and Dietz (1994) highlights the interconnectedness of environmental concern with egoistic, social-altruistic, and biospheric value orientations, suggesting that individuals' beliefs about the consequences of environmental changes are closely

ties to these values. Similarly, Groot and Steg (2007) argue that understanding environmental beliefs and intentions requires considering egoistic, altruistic, and biospheric value orientations. These dimensions of personal values provide a framework for comprehending how individuals perceive and engage with environmental issues based on their intrinsic motivations and ethical considerations.

Steg et al. (2012) emphasize the significance of hedonic values alongside egoistic, altruistic, and biospheric values in influencing environmentally relevant attitudes, preferences, and actions. Hedonic values, which encompass concerns for pleasure, comfort, aesthetics, and spirituality, add another layer to the complexity of individuals' value systems in relation to the environment. This holistic approach acknowledges that individuals' environmental behaviors are shaped by a combination of self-interest, concern for others, appreciation for nature, and personal gratification.

Marshall et al. (2019) further expand on the dimensions of personal values by introducing hedonic values in addition to biospheric, altruistic, and egoistic values. They suggest that these values can explain individuals' environmental beliefs and behaviors, shedding light on the multifaceted nature of human motivations in the environmental context. By incorporating hedonic values, which encompass aspects of pleasure and aesthetics, the framework for understanding consumers' personal values in environmental matters becomes more nuanced and comprehensive.

A study by Wang et al. (2023) explored the relationship between environmental awareness and personal values among Chinese university students, revealing that environmental awareness positively influences biospheric, altruistic, and egoistic values. This finding underscores the interconnectedness of individuals' awareness of environmental issues with their value orientations, highlighting how different dimensions of personal values can be activated based on varying levels of environmental consciousness. Moreover, the study demonstrates that while biospheric values positively predict the New Ecological Paradigm (NEP), altruistic and egoistic values do not, indicating the unique roles these values have in influencing environmental attitudes.

Research by Geiger and Keller (2017) explores the role of compassion and values in sustainable fashion consumption, identifying egoistic values related to achievement and power, altruistic values linked to universalism and benevolence, and biospheric values associated with the preservation of nature as key factors influencing environmental engagement. This segmentation of values highlights the diverse motivations that drive individuals to adopt sustainable practices, underscoring the need to consider multiple dimensions of personal values when examining environmental behaviors.

### 2.3. Pro-environmental Attitude

Pro-environmental attitudes among consumers refer to a psychological inclination to evaluate the natural environment with varying degrees of favor or disfavor, which subsequently influences their actions (He and Filimonau, 2020). These attitudes are crucial for understanding consumers' behaviors towards environmentally

friendly practices and products. However, research highlights the existence of an "attitude-behavior gap," where a significant portion of consumers express high levels of concern for environmental issues but struggle to translate this concern into actual purchases (Young et al., 2009). This gap underscores the complexity of pro-environmental attitudes and the challenges in aligning them with consumer actions.

Consumer attitudes are central to understanding behaviors related to energy conservation, ecologically conscious product usage, and purchase decisions (Mostafa, 2006). These attitudes are multifaceted and influenced by various factors, such as cultural dimensions, environmental knowledge, and gender differences. Studies have demonstrated that national culture can impact pro-environmental behavioral intentions, with different cultural backgrounds shaping individuals' attitudes towards environmental issues (Filimonau et al., 2018). Moreover, gender differences have been observed in consumers' green purchase behavior, emphasizing the role of environmental knowledge, concern, and attitudes in influencing pro-environmental actions (Mostafa, 2006).

The concept of environmental locus of control is also linked to pro-environmental behaviors, suggesting that individuals' beliefs about their ability to impact the environment can influence their eco-friendly actions (Cleveland et al., 2005). This highlights the intricate interplay between personal dispositions, attitudes, and behaviors in driving sustainable consumption practices. Additionally, contextual factors play a significant role in shaping consumers' pro-environmental attitudes and behaviors (Ertz et al., 2016). Understanding the context within which these attitudes are formed is essential for comprehensively delineating the processes that lead to environmentally friendly behaviors.

Endorsing pro-environmental values has been identified as a key driver in enhancing pro-environmental attitudes among consumers, ultimately fostering eco-friendly behaviors (Majumder et al., 2023). This underscores the importance of instilling environmental consciousness and values in individuals to promote sustainable consumption patterns. Furthermore, research has shown that consumers with stronger pro-environmental beliefs are more likely to exhibit positive attitudes towards sustainable practices, such as fashion resale, highlighting the influence of personal beliefs on consumption behaviors (Liu et al., 2023).

In the realm of apparel acquisition, pro-environmental approaches involve purposefully reducing the amount of apparel acquired and selecting items based on their eco-friendly attributes (Taljaard et al., 2018). This signifies a shift towards more mindful and sustainable consumption practices among consumers. Additionally, the androgynous nature of green consumption suggests that pro-environmental attitudes are not confined to specific gender roles but are embraced by individuals across the gender spectrum (Phillips and Englis, 2022). This inclusivity in environmental attitudes reflects a broader societal acceptance and adoption of eco-conscious behaviors. Thus, pro-environmental attitudes among consumers are multifaceted psychological tendencies that significantly influence behaviors towards sustainable consumption practices.



## 2.4. Pro Environmental Purchase Intentions

Pro-environmental purchase intentions among consumers refer to the willingness and inclination of individuals to select products that are environmentally friendly or have a reduced impact on the environment. This concept is rooted in the idea that consumers can positively contribute to sustainability through conscious purchasing behavior. The Extended Theory of Planned Behavior Model has been employed to examine the purchase intentions of green products, highlighting the significance of positive attitudes toward environmental protection in driving the purchase of such products (Maichum et al., 2016). This suggests that consumers with favorable views toward environmental conservation are more likely to engage in pro-environmental purchasing behaviors.

Environmental concern can enhance consumers' pro-environmental purchase intentions. It not only supports these intentions but also reinforces trust in sustainable producers, thereby influencing consumers' decisions to opt for environmentally friendly products (De Canio et al., 2021). Furthermore, the success of a brand's pro-environmental initiatives is closely tied to consumers' patronage and their actual purchase of environmentally conscious products from the brand, highlighting the importance of understanding consumer relationships with pro-environmental brands in shaping purchase intentions (Copeland and Bhaduri, 2019). However, despite many consumers expressing intentions to make pro-environmental purchases, there exists a notable intention-behavior gap, where actual behaviors do not always align with stated intentions (Grimmer and Miles, 2016).

In examining the antecedents of consumers' pro-environmental purchase intentions, factors such as myopia, apathy, environmental concern, and beliefs about pro-environmental behaviors play a role in influencing decisions in low-involvement contexts (Çoşkun et al., 2022). Additionally, considering environmental concern and beliefs regarding pro-environmental behaviors is crucial in predicting consumers' purchase intentions toward smart environmental objects, indicating the multifaceted nature of factors influencing consumer behavior in sustainability contexts (Schill and Godefroit-Winkel, 2019). Factors such as health consciousness, perceived attributes, environmental consciousness, social influence, family structure, and enjoyable shopping experiences have also been identified as significant drivers shaping consumers' green food purchase intentions, highlighting the diverse range of influences on pro-environmental purchasing behaviors (Qi et al., 2020).

Environmental concern serves as a central factor in shaping consumers' environmental purchase intentions, with learning strategies playing a mediating role by providing consumers with the necessary knowledge to formulate such intentions (Newton et al., 2015). Moreover, the Theory of Planned Behavior suggests a positive relationship between individuals' subjective norms and their intentions to purchase pro-environmental products, emphasizing the social influences that contribute to shaping consumer behavior in the realm of sustainability (Onel, 2016). Understanding how pro-environmental and saving behaviors impact organic and second-hand product purchase intentions is essential for unraveling the complexities of sustainable

consumption behavior and its implications on consumer choices (Avci, 2023). Overall, understanding how pro-environmental behaviors influence purchase intentions is crucial for unraveling the complexities of sustainable consumption and its implications for consumer choices.

## 2.5. Hypotheses Development

Pro-environmental attitudes among consumers are significantly influenced by their personal value orientations, particularly altruistic, biospheric, and egoistic values. Altruism, characterized by a selfless concern for the well-being of others, is a crucial factor in shaping individuals' pro-environmental behaviors (Markowitz et al., 2012). Research indicates that altruistic values are crucial in motivating individuals to engage in actions that benefit the environment (Xu et al., 2021). Additionally, altruism is associated with positive environmental behaviors at both individual and organizational levels (Groot and Steg, 2009), highlighting its importance in fostering a sense of responsibility toward environmental conservation.

In addition to altruism, biospheric values, which reflect an intrinsic connection to and concern for nature and the environment, play a significant role in shaping pro-environmental attitudes and behaviors (Thai and Kemper, 2021). Studies have shown that individuals with strong biospheric values are more likely to engage in sustainable behaviors and support environmental initiatives (Kim et al., 2023). These values positively impact pro-environmental attitudes, leading individuals to make choices that benefit the environment (Stern and Dietz, 1994). This suggests that a deep-rooted appreciation for nature can drive individuals toward environmentally friendly actions.

Egoistic values, centered on self-interest and personal gain, also influence pro-environmental attitudes, although to a lesser extent compared to altruistic and biospheric values (Stadlthanner et al., 2022). While egoistic considerations may result in some pro-environmental behaviors, research indicates that altruistic and biospheric values provide a more stable foundation for sustainable environmental actions (Thai and Kemper, 2021). This implies that a focus solely on self-interest may not be as effective in promoting long-term environmental conservation efforts as values centered on altruism and biospheric concerns.

The interplay between these personal value orientations is complex and multifaceted. For instance, individuals with pro-environmental attitudes who possess strong biospheric values are more receptive to environmental messages that emphasize sustainability gains (Patwary et al., 2022). This indicates that those with a deep-seated respect for nature are more likely to respond positively to initiatives promoting environmental well-being.

In the context of consumer behavior, the influence of personal values on pro-environmental attitudes is particularly relevant. Consumers who prioritize altruistic values are more inclined to support environmentally friendly products and initiatives (Markowitz et al., 2012). This aligns with the idea that altruism drives consumers' decisions to engage in sustainable practices. Similarly, individuals with strong biospheric values are more likely

to exhibit behaviors that contribute to environmental conservation, such as reducing waste and supporting eco-friendly businesses (Kim et al., 2023). These findings underscore the critical role of personal values in shaping consumer attitudes toward environmental issues. Consequently, the following hypothesis is proposed:

H1: Consumers' personal value orientations significantly influence their pro-environmental attitudes.

Altruistic, biospheric, and egoistic values have been identified as key factors shaping individuals' decisions to engage in environmentally friendly purchasing behaviors. Altruism, characterized by selflessness and concern for others, has been linked to a positive impact on green purchase intentions (Panda et al., 2020). Consumers who exhibit altruistic values prioritize the well-being of the environment and society, leading to a greater willingness to support eco-friendly products and brands (Caniëls et al., 2021). This sense of altruism helps bridge the gap between values and actions, translating ethical beliefs into tangible behaviors that benefit the environment (Panda et al., 2020).

Furthermore, biospheric values, which reflect a concern for nature and the planet, significantly influence pro-environmental purchasing intentions (Caniëls et al., 2021). This indicates that individuals with strong biospheric values are more likely to make environmentally conscious choices, driven by a genuine care for the Earth and a desire to protect its resources for future generations. These values guide consumers toward selecting sustainable, eco-friendly products with minimal negative impact on the environment (Schuitema and Groot, 2014). While altruistic and biospheric values are often associated with environmentally friendly behaviors (Wei et al., 2022), egoistic values can influence consumers' decisions through different mechanisms (Caniëls et al., 2021). Studies have shown that egoistic values can impact individuals' motivation to purchase green products based on factors such as personal benefits, status, or image enhancement (Pop et al., 2020). This underscores that consumers driven by egoistic values may choose eco-friendly options if they perceive them as aligning with their self-interest or social identity.

Research suggests that a combination of altruistic, biospheric, and egoistic values collectively shapes individuals' attitudes and intentions toward sustainable consumption (Caniëls et al., 2021). By understanding how these values interact and align with consumers' core beliefs, companies can enhance their appeal to environmentally conscious individuals and drive positive purchasing behaviors (Copeland and Bhaduri, 2019).

Moreover, consumers with high levels of environmental concern are more likely to translate their values into actions by actively seeking out and supporting sustainable products and brands (De Canio et al., 2021). Given the impact of personal value orientations on pro-environmental purchase intentions, we propose the following hypothesis:

H2: Consumers' personal value orientations significantly influence their pro-environmental purchase intentions.

Pro-environmental attitudes are significant drivers of consumers' intentions to engage in pro-environmental purchase behaviors. Research by De Canio et al. (2021) emphasizes the role of environmental concern in enhancing pro-environmental purchase intentions and how sustainable producers and retailers can influence consumers in this regard. Chen et al. (2018) also highlight that environmental attitudes, product attitudes, social influence, and perceived monetary value positively impact purchase intentions, with product attitude being a key driver. This indicates that consumers' perceptions of products and their environmental attributes strongly influence their purchase decisions.

Grimmer and Miles (2016) conducted a study on the intention-behavior gap in pro-environmental consumer behavior, revealing the mediating effect of implementation intentions and the moderating influence of various contextual factors on the relationship between intentions and actual behavior. Rahimah et al. (2018) found that consumers' anxiety about death can impact their green purchase attitudes and intentions through mediating variables like environmental concern and pro-environmental behavior, showcasing the interconnected nature of psychological factors and environmental attitudes in shaping consumer behavior.

Kozar and Connell (2013) highlighted the importance of knowledge and attitudes regarding social and environmental issues in predicting socially and environmentally responsible purchasing behavior. Correia et al. (2021) underscored the role of environmental attitudes in stimulating pro-environmental behavioral intentions among students, while acknowledging the influence of social, economic, and demographic factors that may counteract this effect.

Onel (2016) hypothesized a positive relationship between individuals' attitudes towards purchasing pro-environmental products and their intentions to buy such products. Duong (2023) further explored the interplay between attitudes, intentions, and behaviors related to pro-environmental consumption, emphasizing the mediating role of green purchase intention in translating attitudes into actual behaviors. Based on the substantial evidence demonstrating the influence of pro-environmental attitudes on consumers' purchase intentions, we propose the following hypothesis:

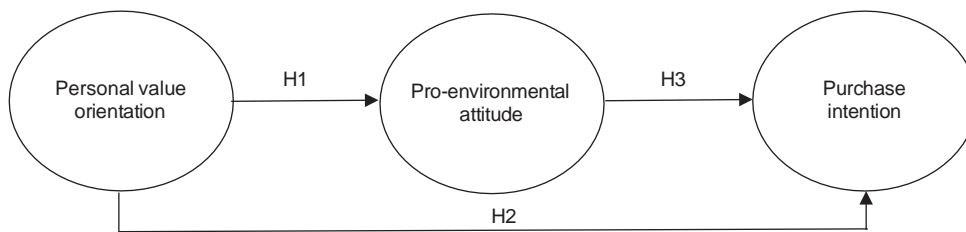
H3: Consumers' pro-environmental attitudes significantly influence their pro-environmental purchase intentions.

The framework of this study is presented in Figure 1.

### 3. RESEARCH METHODOLOGY

A quantitative research design was employed, utilizing a cross-sectional survey approach to gather data from respondents at a single point in time. This design is well-suited for examining the relationships between variables and enables the assessment of how value orientations influence pro-environmental attitudes and behaviors. The study focuses on eco-friendly fashion brands available in Indonesia, encompassing clothing made from recycled, organic, or environmentally friendly materials. Examples

**Figure 1:** Framework of this study



of such brands include those using organic fibers like organic cotton, clothing made from recycled fibers such as recycled polyester, and brands that emphasize sustainable production practices, including the use of natural dyes and waste-reducing manufacturing processes.

### 3.1. Sample

The survey was conducted from December 2023 through March 2024 using online distribution methods to reach a broad audience. The target population consisted of consumers aged 18 and above residing in urban areas of Jakarta, Medan, and Bandung, Indonesia. This focus on urban areas aligns with the observed trend of growing interest in sustainable consumption within these regions, where environmental awareness and access to sustainable products are notably higher.

The sample was selected using simple random sampling to ensure a representative distribution. Surveys were distributed through online channels, including social media and relevant forums, to reach a diverse audience. Out of 1,280 surveys distributed, 389 provided complete responses, resulting in a response rate of 30.4%. This response rate is considered satisfactory for online surveys and indicates meaningful engagement with the target demographic.

The questionnaire was structured in two sections: one aimed at evaluating the theoretical constructs of interest and the other focused on collecting demographic data. To ensure the accuracy and cultural appropriateness of the survey instrument, a back-to-back translation method was employed. The survey was initially translated from English to Indonesian and then back-translated from Indonesian to English by bilingual experts. This process helped maintain the integrity of the questions and ensured that the instrument was suitable for the Indonesian context.

The demographic analysis yields critical insights pertinent to the study of eco-friendly fashion brands. The sample consisted of 389 respondents, with a significant gender imbalance, as 69.2% were female and 30.8% were male. This disparity aligns with existing research, which often highlights that women are more proactive in eco-friendly purchasing, making it crucial to include both genders, but particularly women, in studies of sustainable fashion.

The majority of respondents fell within the young adult age range, with 60.7% aged between 25 and 44 years (44.0% in the 25-34 age group and 31.1% in the 35-44 age group). This demographic is typically characterized by heightened awareness of environmental issues and a stronger inclination towards sustainable purchasing behaviors. Despite this general trend, the study did not identify significant variations in eco-friendly purchasing intentions within

this age group, suggesting a relatively uniform level of interest in sustainable products among younger respondents.

Regarding educational attainment, the sample was diverse, with a significant portion holding higher educational qualifications. Specifically, 60.2% of respondents had a bachelor’s degree, and 6.9% held postgraduate degrees. It is well-documented that higher levels of education are correlated with increased environmental awareness. Consequently, respondents with advanced educational qualifications are likely to possess a more nuanced understanding of the benefits associated with eco-friendly fashion, potentially influencing their purchasing decisions.

In terms of occupational status, the sample was varied, with the largest group consisting of creative professionals (24.9%), followed by technology and startup workers (21.8%), and health and education professionals (20.1%). Students comprised only 3.9% of the sample, reflecting their limited financial resources. Conversely, those in the private sector, such as creative professionals and technology workers, who likely have more disposable income, represent significant segments of the consumer base for eco-friendly fashion. Their financial capacity and commitment to sustainable practices are essential factors in analyzing market dynamics.

The income distribution among respondents varied, with 18.0% earning less than IDR 70,000,000 per year, 43.7% earning between IDR 71,000,000 and 100,000,000 per year, and 38.3% earning more than IDR 100,000,000 per year. This income distribution indicates a relatively affluent sample, which may influence their ability to purchase higher-priced eco-friendly products.

Regarding preferred shopping channels, 45.0% of respondents primarily shop at e-commerce and online marketplaces, while 21.8% favor brand official websites. Social media platforms like Instagram are preferred by 12.9% of respondents. Physical stores and pop-up shops account for 10.0% of the sample’s shopping preferences, while specialized sustainable marketplaces are chosen by 6.9%. Community bazaars and local events attract 3.3% of respondents. This data underscores the significance of online platforms as major retail channels for eco-friendly fashion, while also highlighting the role of specialized stores and events in reaching sustainability-conscious consumers. A detailed demographic description of the sample is provided in Table 1.

### 3.2. Measurement Items

In this study, various constructs were measured through items that were adopted and modified from previous research to

**Table 1: Demographic profile of sample**

Demographic category	Description	n	Percentage	
Gender	Male	120	30.8	
	Female	269	69.2	
Age Group	18-24 years	65	16.7	
	25-34 years	171	44.0	
	35-44 years	121	31.1	
	45 and above	32	8.2	
Educational Attainment	High School	22	5.6	
	Diploma	106	27.3	
	Bachelor's Degree	234	60.2	
	Postgraduate Degree	27	6.9	
Occupational Status	Students	15	3.9	
	Public Sector Employees	45	11.6	
	Creative Professionals	97	24.9	
	Technology and Startup Workers	85	21.8	
	Health and Education Professionals	78	20.1	
	Entrepreneurs and Small Business Owners	58	14.9	
	Executives and Managers	50	12.9	
	Media and Communication Workers	21	5.4	
	Annual Income Brackets (IDR)	< IDR 70.000.000	70	18.0
		IDR 71.000.000 – 100.000.000	170	43.7
> IDR 100,000,000		149	38.3	
Preferred Shopping Channels	E-commerce and Online Marketplaces	175	45.0	
	Brand Official Website	85	21.8	
	Social media (Instagram, etc.)	50	12.9	
	Physical Stores and Pop-up Shops	39	10.0	
	Specialized Sustainable Marketplaces	27	6.9	
	Community Bazaars and Local Events	13	3.3	

The percentages are based on the total sample size of 389 respondents

capture personal values, pro-environmental attitudes, and pro-environmental purchase intentions. Personal value orientation comprises three primary dimensions: altruism, biospheric, and egoistic. The altruism dimension is assessed using five items adopted from Konalingam et al. (2024). Modifications were made to align with contemporary global values such as equality and justice, as reflected in items like “I believe it is important to protect the welfare of others.” Biospheric dimension consists of four items also adopted from Konalingam et al. (2024), with modifications emphasizing the importance of protecting the natural environment, as reflected in items like “I strongly believe that it is important to protect nature.” The egoistic dimension is measured with four items adopted from the same study, focusing on egoistic aspects such as the desire for success over others, as exemplified by the item “Being very successful in my life—more so than my peers and friends.”

Pro-environmental attitudes were measured using three items adopted from previous studies (Kumar et al., 2022; Konalingam et al., 2024; Do and Do, 2024). Modifications were made to ensure that these items are relevant to a specific product context, namely eco-friendly fashion brands. For example, the item “I like the idea of purchasing eco-friendly fashion brands” reflects a positive attitude toward products that support environmental sustainability.

Pro-environmental purchase intentions consist of five items adopted from several studies (Çoşkun et al., 2023; De Canio et al., 2021; Kumar et al., 2022). Modifications to these items were aimed at delving deeper into consumer loyalty and commitment to eco-friendly fashion brands. For instance, the item “I plan to buy

eco-friendly fashion brands in the near future” reflects a strong intention to make pro-environmental purchases in the future.

All items in the questionnaire were assessed using a five-point Likert scale, where 1 represents “strongly disagree” and 5 represents “strongly agree.” This scale allows respondents to indicate the extent of their agreement with each statement, offering detailed insight into their values, attitudes, and intentions concerning environmental sustainability. Detailed factor loadings for each measurement item are presented in Table 2.

### 3.3. Common Method Variance

In this study, Harman’s single-factor test was used to evaluate the extent of Common Method Variance (CMV), revealing that the first factor accounted for 46.758% of the total variance. According to CMV assessment criteria, a potential issue arises if a single factor explains more than 50% of the variance. Since the percentage of variance explained by the first factor is below this threshold, it suggests that CMV is not a significant concern for this research. CMV, which represents a form of systematic error variance, can introduce bias and lead to erroneous conclusions in research. Therefore, it is advisable for researchers to detect and control CMV in contexts where it may influence the relationships observed in their studies (Johnson et al., 2011).

## 4. RESULTS AND DISCUSSION

The data for this study were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM), with computations performed using SmartPLS 4.0. This methodological choice was



**Table 2: Factor loadings for measurement items (first-order)**

Code	Item	Factor loading
	Pro-environmental attitude	
PEA1	I like the idea of purchasing eco-friendly fashion brands.	0.838
PEA2	I feel good about buying eco-friendly fashion brands	0.868
PEA3	My attitude supports purchasing eco-friendly fashion brands.	0.847
	Purchase Intention	
PI1	If I had to choose again, I would buy eco-friendly fashion brands.	0.766
PI2	I try to buy eco-friendly fashion brands because I believe it's the best choice.	0.827
PI3	I consider myself a loyal supporter of eco-friendly fashion brands	0.774
PI4	I am willing to choose eco-friendly fashion brands when shopping.	0.818
PI5	I plan to buy eco-friendly fashion brands in the near future.	0.773
	Altruism	
PVO1	I believe it is important to protect the welfare of others	0.801
PVO2	I believe it is important that every person in the world has equal opportunities in life.	0.805
PVO3	I want everyone to be treated justly, even people I do not know.	0.801
PVO4	I believe it is important to have a world of peace.	0.837
PVO5	I believe it is especially important to maintain justice	0.802
	Biospheric	
PVO6	I strongly believe that it is important to protect nature.	0.814
PVO7	I believe it is important to work against threats to the world of nature.	0.827
PVO8	I believe protecting the natural environment from destruction and pollution is important.	0.827
PVO9	I believe it is particularly important to protect natural resources	0.820
	Egoistic	
PVO10	Being very successful in my life – more so than my peers and friends.	0.816
PVO11	Controlling or dominating others.	0.786
PVO12	Having an influence on people and events.	0.823
PVO13	I think having money and possessions is important	0.851

guided by PLS-SEM's suitability for empirical research involving complex models with multiple constructs. The method adeptly manages both reflective and formative indicators, making it an appropriate tool for assessing relationships among variables and testing the proposed hypotheses within the study's framework.

#### 4.1. Assessment of the Measurement Model

The measurement model demonstrates robust reliability and validity across the assessed constructs. For the pro-environmental attitude construct, the first-order Cronbach's alpha (CA) is 0.810, exceeding the acceptable threshold of 0.70, indicating satisfactory internal consistency. The composite reliability (CR) is 0.887, further affirming the construct's reliability. Moreover, the average variance extracted (AVE) is 0.724, which surpasses the recommended minimum of 0.50, suggesting that the construct captures a substantial portion of the variance in the observed indicators. The decision not to evaluate pro-environmental attitude as a second-order construct is justified, as it directly measures respondents' attitudes towards eco-friendly fashion brands, with the first-order model adequately capturing the relevant variance.

For the purchase intention construct, the first-order Cronbach's alpha (CA) is 0.928, reflecting excellent internal consistency, while the composite reliability (CR) is 0.938, both significantly exceeding the recommended threshold of 0.70. The average variance extracted (AVE) is 0.536, which, though above the 0.50 threshold, indicates some potential for improvement in the construct's variance capture. As with pro-environmental attitude, purchase intention is appropriately treated as a first-order construct due to its direct measurement of purchase likelihood and the absence of need for a higher-order framework.

The personal value orientation constructs—altruism, biospheric, and egoistic—are evaluated as second-order constructs. For the second-order model, factor loadings range from 0.879 to 0.909. The first-order Cronbach's alpha (CA) values are 0.868 for altruism, 0.840 for biospheric, and 0.837 for egoistic, with a second-order Cronbach's alpha of 0.928, indicating high internal consistency. The composite reliability (CR) values for the first-order constructs are 0.905 for altruism, 0.893 for biospheric, and 0.891 for egoistic, with a second-order CR of 0.938, reflecting strong reliability. The average variance extracted (AVE) values are 0.655 for altruism, 0.675 for biospheric, and 0.673 for egoistic at the first-order level, and 0.536 for the second-order model, demonstrating robust convergent validity. A detailed assessment of the measurement model for each construct, at both the first-order and second-order levels, is presented in Table 3.

Discriminant validity of the constructs was assessed using the Fornell and Larcker criterion and the HTMT. The Fornell and Larcker criterion involves comparing the square roots of the Average Variance Extracted (AVE) for each construct with the highest inter-construct correlations. The results confirm that the square roots of the AVE exceed the highest correlations, indicating that each construct is more closely related to its own indicators than to other constructs (Table 4).

The HTMT analysis indicates that all values are below the conservative threshold of 0.85 (Hair et al., 2022), with the highest value being 0.833. This finding suggests that the constructs are distinct and exhibit minimal overlap. Collectively, these results affirm the discriminant validity of the measurement model, confirming that each construct measures a unique aspect of the study. The detailed results are presented in Table 5.



### 4.2. Assessment of the Structural Model

The hypothesis testing results confirm the proposed path relationships. The path from personal value orientation to pro-environmental attitude (PVO → PEA) shows a significant and positive relationship ( $\beta = 0.608, P = 0.000$ ), thereby confirming this hypothesis. Similarly, the path from personal value orientation to purchase intention (PVO → PI) is significant ( $\beta = 0.485, P = 0.000$ ). Additionally, the path from pro-environmental attitude to purchase intention (PEA → PI) demonstrates a positive and significant relationship ( $\beta = 0.319, P = 0.002$ ). The details are presented in Table 6.

The predictive performance metrics and model fit indices for the constructs pro-environmental attitude (PEA) and purchase intention (PI) are discussed below. The R-squared values indicate the proportion of variance explained by the model for each construct. Specifically, the model accounts for 37% of the variance in pro-environmental attitude ( $R^2 = 0.370$ ) and 52.5% of the variance in purchase intention ( $R^2 = 0.525$ ). These R-squared values reflect a moderate level of predictive power, with a particularly notable effect on purchase intention, which is a key outcome variable in this study.

The Q-squared values, which assess the model’s predictive relevance, are 0.265 for PEA and 0.325 for PI. Since both values are above zero, they demonstrate that the model possesses adequate

predictive relevance for these constructs. Additionally, the Standardized Root Mean Square Residual (SRMR) value is 0.098. Given that an SRMR value below 0.10 is generally considered acceptable, this suggests that the model fit is satisfactory for the data. The details are presented in Table 7.

This study aimed to address two primary research questions: first, how personal value orientation influences consumers’ pro-environmental attitudes and purchase intentions for eco-friendly products; and second, the extent to which the relationship between pro-environmental attitudes and purchase intentions for eco-friendly products is established.

The first major finding reveals that personal value orientation significantly affects consumers’ pro-environmental attitudes ( $\beta = 0.608, P = 0.000$ ). This finding corroborates existing literature, which posits that dimensions of personal value orientation—namely altruistic, biospheric, and egoistic values—exert varying impacts on pro-environmental attitudes. Specifically, personal value orientation characterized by altruistic values, encompassing concern for others’ well-being and social justice, has a pronounced effect on pro-environmental attitudes. This result aligns with the research of Markowitz et al. (2012) and Xu et al. (2021), confirming that individuals with high altruistic values are more inclined to engage in environmentally supportive behaviors. Furthermore, this study complements the work of Thai and Kemper

**Table 3: Assessment of measurement model**

Constructs	Loading	CA		CR		AVE	
	Second order	First order	Second order	First order	Second order	First order	Second order
Pro-environmental attitude		0.810		0.887		0.724	
Purchase intention		0.928		0.938		0.536	
Personal value orientation:			0.928		0.938		0.536
• Altruism	0.909	0.868		0.905		0.655	
• Biospheric	0.879	0.840		0.893		0.675	
• Egoistic	0.900	0.837		0.891		0.672	

**Table 4: Fornell and Larcker criterion**

Construct	Altruism	Biospheric	Egoistic	Pro-environmental attitude	Purchase intention
Altruism	(0.809)				
Biospheric	0.679	(0.822)			
Egoistic	0.727	0.711	(0.819)		
Pro-environmental attitude	0.542	0.532	0.562	(0.851)	
Purchase intention	0.609	0.604	0.615	0.614	(0.792)

**Table 5: HTMT**

Construct	Altruism	Biospheric	Egoistic	Personal value orientation	Pro-environmental attitude
Biospheric	0.795				
Egoistic	0.833	0.829			
Pro-environmental attitude	0.646	0.645	0.683	0.701	
Purchase intention	0.707	0.714	0.728	0.764	0.736

**Table 6: Hypothesis analysis**

Path	$\beta$	M	SD	t-values	P-values	Remarks
PVO→PEA	0.608	0.620	0.072	8.501	0.000	Confirmed
PVO→PI	0.485	0.501	0.110	4.414	0.000	Confirmed
PEA→PI	0.319	0.307	0.104	3.075	0.002	Confirmed

PVO: Personal value orientation, PEA: Pro-environmental attitude, PI: Purchase intention

**Table 7: Predictive performance metrics and model fit**

Constructs	Predictive power	Predictive relevance	Model fit
	R-Square	Q-Square	SRMR
PEA	0.370	0.265	0.098
PI	0.525	0.325	

PEA: Pro-environmental attitude, PI: Purchase intention

(2021) and Kim et al. (2023), which demonstrates that biospheric values, reflecting concern for nature and the environment, also significantly influence pro-environmental attitudes. These findings reinforce the notion that individuals with a strong biospheric value orientation are more predisposed to sustainable actions and environmental initiatives. While egoistic values, which focus on personal interests and gains, also contribute to pro-environmental attitudes, this study underscores that altruistic and biospheric values provide a more substantial foundation for sustainable and long-term environmental preservation actions.

The second major finding indicates that pro-environmental purchase intentions are influenced by consumers' personal value orientations, including altruistic, biospheric, and egoistic values ( $\beta = 0.485$ ,  $P = 0.000$ ). This finding affirms that personal value orientation, particularly altruistic values, has a significant positive impact on the intention to purchase eco-friendly products. Consistent with Panda et al. (2020), consumers with high altruistic values are more likely to support eco-friendly products due to their concern for social and environmental impacts. Altruistic values act as a bridge between ethical beliefs and actual behaviors, promoting the selection of environmentally beneficial products, as outlined by Caniëls et al. (2021). Additionally, the study highlights that biospheric values significantly affect pro-environmental purchase intentions. This aligns with research by Schuitema and Groot (2014), which shows that individuals with strong biospheric values are more likely to make environmentally conscious choices, driven by a desire to protect natural resources and preserve the environment for future generations. This underscores the importance of considering the ecological implications of consumption decisions. Moreover, the study finds that egoistic values, despite their orientation toward personal gain, also significantly impact pro-environmental purchase intentions. Research by Pop et al. (2020) suggests that motivations to buy green products can be influenced by egoistic values, particularly when personal benefits, status enhancement, or social image associated with the product are considered. This indicates that personal considerations can influence purchase decisions, thereby supporting environmentally friendly behavior.

The third finding reveals a positive and significant relationship between pro-environmental attitudes and purchase intentions ( $\beta = 0.319$ ,  $P = 0.002$ ). This result aligns with Chen et al. (2018), who highlight that attitudes toward products are a major driver of purchase intentions. This underscores the significant influence of consumer attitudes toward products and their environmental attributes on purchase decisions. It is consistent with Rahimah et al. (2018), who emphasize the psychological role of environmental attitudes in shaping purchase intentions. Furthermore, the findings align with Correia et al. (2021), who underscore the importance of environmental attitudes in stimulating pro-environmental

behavioral intentions, despite the influence of social, economic, and demographic factors. Additionally, the study's results agree with Onel (2016), who identifies environmental concern as a key predictor of green product purchase intentions. Overall, these findings highlight that pro-environmental attitudes are crucial in shaping consumers' intentions to purchase eco-friendly products.

From a demographic perspective, several key findings can be identified. First, there is a significant gender imbalance in the sample, with 69.2% of respondents being female and 30.8% male. This finding is consistent with previous research indicating that women tend to be more active in purchasing eco-friendly products (Tung et al., 2017). This suggests that marketing approaches for eco-friendly fashion brands may be more effective if focused on the female segment. However, it is also important to design strategies that include men to reach a broader audience.

Second, the majority of respondents fall within the young adult age range, with 60.7% being between 25 and 44 years old. This finding aligns with previous research indicating that younger individuals are often associated with higher awareness of sustainability issues and a tendency toward more environmentally friendly lifestyles, thus showing significant interest in eco-friendly products (Tran et al., 2022).

Third, the high level of education among respondents, with approximately 67.1% holding a bachelor's or advanced degree, supports findings from previous studies suggesting that knowledge about the benefits of eco-friendly products is stronger among individuals with higher education levels (Yoon and Joung, 2019). This underscores the importance of tailoring marketing messages to audiences with higher educational backgrounds.

Furthermore, the employment status of respondents, with many working in creative, technology, and healthcare fields, indicates that this group may have more resources and awareness for adopting eco-friendly products. This positions them as a primary target for promoting such products.

Income distribution also shows that the majority of respondents have relatively high annual incomes, reinforcing the argument that they may be more capable of purchasing premium-priced products often associated with eco-friendly goods. This highlights the need for promotions that emphasize the additional quality and benefits of these products.

Finally, data on shopping channel preferences reveal that 45% of respondents prefer shopping on e-commerce and online marketplaces, while 21.8% prefer brand websites. This underscores the importance of a strong online presence for eco-friendly fashion brands and suggests that well-planned digital marketing efforts can play a crucial role in reaching the target audience.

## 5. CONCLUSION

This study aims to explore the impact of consumers' personal value orientation on pro-environmental attitudes and purchase intentions for eco-friendly products, as well as to identify the

relationship between pro-environmental attitudes and purchase intentions. The main conclusions indicate that consumers' personal value orientations, including altruistic, biospheric, and egoistic values, significantly influence pro-environmental attitudes. The substantial contributions of altruistic and biospheric values to pro-environmental attitudes have been emphasized, highlighting the crucial role of these values in supporting environmental preservation. Additionally, the relevant impact of egoistic values has been identified, indicating that while egoistic values are more focused on personal interests, their role in environmental attitudes remains significant. The study also finds that consumers' personal value orientations, including altruistic, biospheric, and egoistic values, significantly influence purchase intentions for eco-friendly products. Altruistic and biospheric values strongly drive purchase intentions, while egoistic values contribute significantly to purchase decisions involving personal benefits. The emphasis on the complexity of personal value orientations in influencing purchase intentions underscores the need for marketing approaches that consider these value dimensions. Furthermore, a significant positive relationship between pro-environmental attitudes and purchase intentions for eco-friendly products has been identified. Attitudes supporting environmental preservation are shown to be a major driver in the purchase decisions for eco-friendly products. Thus, pro-environmental attitudes are recognized as a key factor in motivating consumers' purchase intentions toward products that support sustainability.

### 5.1. Theoretical Contributions and Managerial Implications

This study enhances the understanding of how personal value orientations affect attitudes and purchase intentions toward eco-friendly products. The findings significantly contribute to the literature by demonstrating that personal values, including egoistic values, can influence pro-environmental attitudes and purchase intentions. The primary theoretical contribution of this research lies in the enrichment of Value-Belief-Norm (VBN) Theory through empirical examination of the relationship between personal values and pro-environmental behavior within the context of eco-friendly fashion brands. The study reveals that altruistic and biospheric value orientations are strong drivers of attitudes and purchase intentions toward eco-friendly products. However, the role of egoistic values becomes more nuanced when associated with fashion products, which are often linked to self-image and social status. This finding suggests that in certain product categories, such as fashion, egoistic values may support the relationship between pro-environmental beliefs and purchasing behavior, potentially differing from other product categories.

Furthermore, this research underscores the importance of considering the Indonesian cultural context when applying VBN Theory. In a collectivist culture like Indonesia's, personal value orientations may be influenced by social norms and group expectations, which can modify the relationship between personal values and pro-environmental behavior.

The practical implications of this study indicate that eco-friendly fashion brands in Indonesia should develop marketing messages that prominently highlight altruistic and biospheric values, such

as contributions to environmental preservation and sustainability. Simultaneously, these messages should incorporate elements appealing to egoistic values, such as self-image and social status achievable through the use of eco-friendly fashion brands.

Considering Indonesia's collectivist culture, marketing campaigns should also feature elements that emphasize social norms and group expectations. For example, promoting eco-friendly fashion brands as choices that are not only beneficial for the environment but also as trends accepted and endorsed by consumers' social groups.

Brands can identify market segments with predominant altruistic, biospheric, and egoistic value orientations and develop more targeted marketing strategies accordingly. For instance, consumers with egoistic value orientations may be more effectively engaged through campaigns highlighting personal benefits like comfort and style, while those with altruistic and biospheric orientations might respond more positively to messages emphasizing social responsibility and sustainability. Additionally, brands might consider developing product lines that emphasize sustainability while offering added benefits relevant to egoistic values, such as exclusivity. This approach will help attract consumers with diverse personal value orientations, thereby increasing purchase opportunities.

Overall, the findings of this study provide a foundation for marketers to devise more targeted strategies for promoting eco-friendly fashion brands, taking into account the complexities of personal value orientations and the cultural context in Indonesia.

### 5.2. Limitations

This study faces several limitations that are important to consider. First, the findings may have limitations in terms of generalizability to broader cultural and geographical contexts. To enhance the external validity of the findings, future research is recommended to involve samples from diverse locations and cultural backgrounds. Second, this study focuses on specific environmentally friendly fashion brands and does not explore other product types that may have different characteristics and dynamics. Therefore, future studies should include variations of products or services relevant to environmental issues to obtain a more comprehensive understanding. Third, although the sample size in this study is adequate, research with a larger sample could provide more robust results and improve the generalizability of the findings. Additionally, the data collected through surveys is self-reported, which may affect the accuracy of the information due to potential biases in personal reporting. Therefore, the use of more diverse research methods and more objective data collection techniques is recommended for future studies to enhance the understanding and validity of research results.

## REFERENCES

- Ahn, I. (2023), Measuring the motivation: A scale for positive consequences in pro-environmental behavior. *Sustainability*, 16(1), 250.
- Avci, I. (2023), How pro-environmental and saving behaviours determine organic product and second-hand product purchase intentions:



- A study in Turkey. *Drustvena Istrazivanja*, 32(3), 427-448.
- Caniëls, M., Lambrechts, W., Platje, J., Motylska-Kuzma, A., Fortuński, B. (2021), 50 shades of green: Insights into personal values and worldviews as drivers of green purchasing intention, behaviour, and experience. *Sustainability*, 13(8), 4140.
- Chen, C., Chen, C., Tung, Y. (2018), Exploring the consumer behavior of intention to purchase green products in belt and road countries: An empirical analysis. *Sustainability*, 10(3), 854.
- Chua, K., Quoquab, F., Mohammad, J., Basiruddin, R. (2016), The mediating role of new ecological paradigm between value orientations and pro-environmental personal norm in the agricultural context. *Asia Pacific Journal of Marketing and Logistics*, 28(2), 323-349.
- Cleveland, M., Kalamas, M., Laroche, M. (2005), Shades of green: Linking environmental locus of control and pro-environmental behaviors. *Journal of Consumer Marketing*, 22(4), 198-212.
- Copeland, L., Bhaduri, G. (2019), Consumer relationship with pro-environmental apparel brands: Effect of knowledge, skepticism and brand familiarity. *Journal of Product and Brand Management*, 29(1), 1-14.
- Correia, E., Sousa, S., Viseu, C., Leite, J. (2021), Using the theory of planned behavior to understand the students' pro-environmental behavior: A case-study in a Portuguese HEI. *International Journal of Sustainability in Higher Education*, 23(5), 1070-1089.
- Çoşkun, A., Polonsky, M., Vocino, A. (2022), Pro-environmental purchase intentions in a low-involvement context: The role of myopia and apathy. *Journal of Global Responsibility*, 14(3), 310-336.
- De Canio, F., Martinelli, E., Endrighi, E. (2021), Enhancing consumers' pro-environmental purchase intentions: The moderating role of environmental concern. *International Journal of Retail and Distribution Management*, 49(9), 1312-1329.
- Do, V.T.H., Do, L.T. (2024), Downward social comparison in explaining pro-environmental attitude-sustainable consumption behavior gap. *Asia Pacific Journal of Marketing and Logistics*, 37(1), 236-252. Doi: 10.1108/APJML-05-2024-0665
- Duong, C. (2023), Environmental corporate social responsibility initiatives and the attitude-intention-behavior gap in green consumption. *Social Responsibility Journal*, 20(2), 305-325.
- Ertz, M., Karakas, F., Sarigöllü, E. (2016), Exploring pro-environmental behaviors of consumers: An analysis of contextual factors, attitude, and behaviors. *Journal of Business Research*, 69(10), 3971-3980.
- Fang, W., Ng, E., Wang, C., Hsu, M. (2017), Normative beliefs, attitudes, and social norms: people reduce waste as an index of social relationships when spending leisure time. *Sustainability*, 9(10), 1696.
- Filimonau, V., Matute, J., Mika, M., Faracik, R. (2018), National culture as a driver of pro-environmental attitudes and behavioural intentions in tourism. *Journal of Sustainable Tourism*, 26(10), 1804-1825.
- Geiger, S., Keller, J. (2017), Shopping for clothes and sensitivity to the suffering of others: The role of compassion and values in sustainable fashion consumption. *Environment and Behavior*, 50(10), 1119-1144.
- Grimmer, M., Miles, M. (2016), With the best of intentions: A large sample test of the intention-behaviour gap in pro-environmental consumer behaviour. *International Journal of Consumer Studies*, 41(1), 2-10.
- Groot, J., Steg, L. (2007), Value orientations to explain beliefs related to environmental significant behavior. *Environment and Behavior*, 40(3), 330-354.
- Groot, J., Steg, L. (2009), Mean or green: Which values can promote stable pro-environmental behavior?. *Conservation Letters*, 2(2), 61-66.
- Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M. (2022), *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. 3<sup>rd</sup> ed. United States: Sage.
- Hartmann, P., Apaolaza, V., D'Souza, C. (2018), The role of psychological empowerment in climate-protective consumer behaviour. *European Journal of Marketing*, 52(1/2), 392-417.
- He, L., Filimonau, V. (2020), The effect of national culture on pro-environmental behavioural intentions of tourists in the UK and China. *Tourism Management Perspectives*, 35, 100716.
- Hussain, S., Huang, J. (2022), The impact of cultural values on green purchase intentions through ecological awareness and perceived consumer effectiveness: An empirical investigation. *Frontiers in Environmental Science*, 10, 985200.
- Jansson, J., Marell, A., Nordlund, A. (2010), Green consumer behavior: Determinants of curtailment and eco-innovation adoption. *Journal of Consumer Marketing*, 27(4), 358-370.
- Jansson, J., Marell, A., Nordlund, A. (2011), Exploring consumer adoption of a high involvement eco-innovation using value-belief-norm theory. *Journal of Consumer Behaviour*, 10(1), 51-60.
- Johnson, R., Rosen, C., Djurdjevic, E. (2011), Assessing the impact of common method variance on higher order multidimensional constructs. *Journal of Applied Psychology*, 96(4), 744-761.
- Kim, W., Che, C., Jeong, C. (2023), Restaurant customers' food leftover reduction intention derived from nature connection and biospheric values: A comparison between men and women. *Frontiers in Psychology*, 13, 976102.
- Kim, W., Kim, K. (2018), Pro-environmental intentions among food festival attendees: An application of the value-belief-norm model. *Sustainability*, 10(11), 3894.
- Konalingam, K., Thivaakaran, T., Kengatharan, N., Sivapalan, A., Hensman, G.H., Harishangar, A. (2024), Exploring the drivers of pro-environmental behavioral intentions in an emerging nation. *Social Responsibility Journal*, 20, 1697-1723.
- Kozar, J., Connell, K. (2013), Socially and environmentally responsible apparel consumption: Knowledge, attitudes, and behaviors. *Social Responsibility Journal*, 9(2), 315-324.
- Kumar, N., Garg, P., Singh, S. (2022), Pro-environmental purchase intention towards eco-friendly apparel: Augmenting the theory of planned behavior with perceived consumer effectiveness and environmental concern. *Journal of Global Fashion Marketing*, 13(2), 134-150.
- Lee, Y. (2017), A comparative study of green purchase intention between Korean and Chinese consumers: The moderating role of collectivism. *Sustainability*, 9(10), 1930.
- Liu, C., Bernardoni, J., Wang, Z. (2023), Examining generation Z consumer online fashion resale participation and continuance intention through the lens of consumer perceived value. *Sustainability*, 15(10), 8213.
- Maichum, K., Parichatnon, S., Peng, K. (2016), Application of the extended theory of planned behavior model to investigate purchase intention of green products among Thai consumers. *Sustainability*, 8(10), 1077.
- Majumder, R., Plotkina, D., Rabeson, L. (2023), Environmentally responsible values, attitudes and behaviours of Indian consumers. *Environmental Values*, 32(4), 433-468.
- Markowitz, E., Goldberg, L., Ashton, M., Lee, K. (2012), Profiling the "pro-environmental individual": A personality perspective. *Journal of Personality*, 80(1), 81-111.
- Marshall, N., Thiault, L., Beeden, A., Beeden, R., Benham, C., Curnock, M., Pert, P. (2019), Our environmental value orientations influence how we respond to climate change. *Frontiers in Psychology*, 10, 00958.
- Mazhar, W., Jalees, T., Asim, M., Kazmi, S., Zaman, S. (2022), Psychological consumer behavior and sustainable green food purchase. *Asia Pacific Journal of Marketing and Logistics*, 34(10), 2350-2369.
- Mostafa, M. (2006), Gender differences in Egyptian consumers' green purchase behaviour: The effects of environmental knowledge, concern and attitude. *International Journal of Consumer Studies*,



- 31(3), 220-229.
- Newton, J., Tsarenko, Y., Ferraro, C., Sands, S. (2015), Environmental concern and environmental purchase intentions: The mediating role of learning strategy. *Journal of Business Research*, 68(9), 1974-1981.
- Onel, N. (2016), Pro-environmental purchasing behavior of consumers. *Social Marketing Quarterly*, 23(2), 103-121.
- Panda, T., Kumar, A., Jakhar, S., Luthra, S., Garza-Reyes, J., Kazançoğlu, İ., Nayak, S. (2020), Social and environmental sustainability model on consumers' altruism, green purchase intention, green brand loyalty and evangelism. *Journal of Cleaner Production*, 243, 118575.
- Park, J., Ha, S. (2012), Understanding pro-environmental behavior. *International Journal of Retail and Distribution Management*, 40(5), 388-403.
- Patwary, A., Rasoolimanesh, S., Rabiul, M., Aziz, R., Hanafiah, M. (2022), Linking environmental knowledge, environmental responsibility, altruism, and intention toward green hotels through ecocentric and anthropocentric attitudes. *International Journal of Contemporary Hospitality Management*, 34(12), 4653-4673.
- Phillips, D., Englis, B. (2022), Green consumption is both feminine and masculine-just ask the androgynous consumer. *Journal of Consumer Behaviour*, 21(5), 1028-1039.
- Pop, R., Săplăcan, Z., Alt, M. (2020), Social media goes green-the impact of social media on green cosmetics purchase motivation and intention. *Information*, 11(9), 447.
- Qi, X., Yu, H., Ploeger, A. (2020), Exploring influential factors including COVID-19 on green food purchase intentions and the intention-behaviour gap: A qualitative study among consumers in a Chinese context. *International Journal of Environmental Research and Public Health*, 17(19), 7106.
- Rahimah, A., Khalil, S., Cheng, J., Tran, M., Panwar, V. (2018), Understanding green purchase behavior through death anxiety and individual social responsibility: Mastery as a moderator. *Journal of Consumer Behaviour*, 17(5), 477-490.
- Schill, M., Godefroit-Winkel, D. (2019), Consumer segments in the smart environmental objects market. *Journal of Consumer Marketing*, 36(2), 317-327.
- Schuitema, G., Groot, J. (2014), Green consumerism: The influence of product attributes and values on purchasing intentions. *Journal of Consumer Behaviour*, 14(1), 57-69.
- Sheng, G., Xie, F., Shouliang, G., Pan, H. (2019), The role of cultural values in green purchasing intention: Empirical evidence from Chinese consumers. *International Journal of Consumer Studies*, 43(3), 315-326.
- Slimak, M., Dietz, T. (2006), Personal values, beliefs, and ecological risk perception. *Risk Analysis*, 26(6), 1689-1705.
- Stadthanner, K., Andreu, L., Font, X., Ribeiro, M., Pérez, R. (2022), How environmental gain messages affect cause involvement, attitude and behavioural intentions: The moderating effects of CSR scepticism and biospheric values. *Corporate Communications: An International Journal*, 27(4), 781-799.
- Steg, L., Perlaviciute, G., Werff, E., Lurvink, J. (2012), The significance of hedonic values for environmentally relevant attitudes, preferences, and actions. *Environment and Behavior*, 46(2), 163-192.
- Stern, P., Dietz, T. (1994), The value basis of environmental concern. *Journal of Social Issues*, 50(3), 65-84.
- Taljaard, H., Sonnenberg, N., Jacobs, B. (2018), Factors motivating male consumers' eco-friendly apparel acquisition in the South African emerging market. *International Journal of Consumer Studies*, 42(5), 461-468.
- Thai, N., Kemper, J. (2021), Lay beliefs about the world affect preferences for sustainable hotel offerings. *Australasian Marketing Journal (AMJ)*, 30(3), 246-257.
- Tran, K.T., Nguyen, T.A., Tran, Y., Nguyen, A.B., Luu, K., Nguyen, Y.T.H. (2022), Eco-friendly fashion among generation Z: Mixed-methods study on price value image, customer fulfillment, and pro-environmental behavior. *PLOS ONE*, 17(8), e0272789.
- Tung, T., Koenig, H.F., Chen, H. (2017), Effects of green self-identity and cognitive and affective involvement on patronage intention in eco-friendly apparel consumption: A gender comparison. *Sustainability*, 9(11), 1977.
- Wang, C., Zhang, Q., Wong, P., Wang, L. (2023), Consumers' green purchase intention to visit green hotels: A value-belief-norm theory perspective. *Frontiers in Psychology*, 14, 1139116.
- Wang, L., Wong, P., Alagas, E. (2020), Antecedents of green purchase behaviour: An examination of altruism and environmental knowledge. *International Journal of Culture, Tourism and Hospitality Research*, 14(1), 63-82.
- Wang, Z., Nie, L., Jeronen, E., Xu, L., Chen, M. (2023), Understanding the environmentally sustainable behavior of Chinese university students as tourists: An integrative framework. *International Journal of Environmental Research and Public Health*, 20(4), 3317.
- Wei, S., Liu, F., She, S., Wu, R. (2022), Values, motives, and organic food consumption in China: A moderating role of perceived uncertainty. *Frontiers in Psychology*, 13, 736168.
- Xu, Y., Li, W., Chi, S. (2021), Altruism, environmental concerns, and pro-environmental behaviors of urban residents: A case study in a typical Chinese city. *Frontiers in Psychology*, 12, 643759.
- Yıldırım, B., Semiz, G. (2019), Future teachers' sustainable water consumption behavior: A test of the value-belief-norm theory. *Sustainability*, 11(6), 1558.
- Yoon, J., Joung, S. (2019), Examining purchase intention of eco-friendly products: A comparative study. *Journal of System and Management Sciences*, 9, 123-135.
- Young, W., Hwang, K., McDonald, S., Oates, C. (2009), Sustainable consumption: Green consumer behaviour when purchasing products. *Sustainable Development*, 18(1), 20-31.