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Theory Plan of Behavior Perspective: Exploring Sustainable Product Remanufacture and its Impact on Purchase Intentions

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Abstract

Environmental concerns globally, encompassing issues like pollution, global warming, and ozone depletion, highlight the urgency for sustainability measures. Within the realm of green initiatives, understanding remanufactured products emerges as a facet of environmental literacy. This research addresses prior inconsistencies by examining mediating factors specifically, the impact of value consciousness and awareness of green products on the inclination to buy remanufactured goods. Collected data through distributing 270 questionnaires which is a sample of data from the entire population of Bali province, Structural Equation Modeling (SEM) via AMOS software version 23 was employed for analysis. Findings indicate the pivotal roles of green knowledge of remanufactured products, value consciousness, and awareness in shaping the purchase intention to eco-friendly items. Consequently, this study bears implications for companies aiming to advance sustainable products, and it offers insights for policymakers and industry stakeholders to formulate strategies that foster consumer awareness and green product development.

Keywords: Remanufactured Product, Green Knowledge, Green Awareness, Value Consciousness, Purchase Intention.

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1. Introduction

Environmental issues are currently a major concern around the world. Many threats to environmental health endanger all living things. Changes in weather, temperature, extreme weather, and other natural disasters have a comprehensive impact on food security and public health (Zs, 2022). Environmental issues such as pollution, global warming, and ozone depletion threaten the lives of all living things (Bashir et al., 2019). Environmental pollution does not only occur due to large industrial activities, household activities also play a role in environmental pollution. Increasing environmental pollution and depletion of natural resources have created pressure on governments and companies to implement sustainable economic practices (Liu, 2022).

The concept of sustainability offers an alternate approach to the preservation of ecosystems and the environment. Efforts to conserve the environment have been made, one of which is the conversion of non-environmentally friendly everyday products into environmentally friendly products, often known as green products. Green products are the most superior environmental solutions in many developed countries (Ramayah et al., 2010). Green product value has a substantial impact on individual and environmental growth and development (Gaffney, 2014). Green understanding of remanufactured products is one of the sustainability literacy programs included in green products.

Green knowledge about remanufactured products is triggered by environmentally friendly behaviors, attitudes toward preserving the environment, and efforts to reduce waste and reduce pollution (Pandey & Syam, 2023; Ramirez et al., 2015; Silva et al., 2020; P. Wang & Kuah, 2017). Remanufacturing is a process that involves transforming discarded products into functional and valuable products. The process involves the recovery of materials and parts from old products, their cleaning and repair, and re-assembly to produce products that are as good as new products so that remanufactured products have a lower price (Aboul-Dahab et al., 2021; Ijomah et al., 1999; Liang et al., 2009; T. Van Nguyen et al., 2020; Randhawa et al., 2015). The idea of remanufacturing has the potential to promote sustainability (Singhal et al., 2019). The achievement of sustainability programs through remanufactured products cannot be separated from the public's understanding of green products.

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The remanufacturing concept allows for the reduction of raw materials, the reduction of production costs, the conservation of resources, and the preservation of the environment to accomplish the notion of sustainability (Lv et al., 2021). Consumers who buy remanufactured products also profit since they receive things at low prices while still receiving excellent value. In their research, Zheng et al., (2021) said that although remanufactured products allow factories to reduce production costs, demand for remanufactured products is still limited due to customer perceptions.

Understanding green products affects consumer awareness of green products (Ansu-Mensah, 2021). One way to promote remanufactured products is through value consciousness and green awareness. Value consciousness pertains to how aware individuals are regarding their actions and their environmental impact. Consumers with green consciousness tend to avoid any product that can cause environmental damage, harm living organisms, and consume large amounts of non-renewable energy (Elkington, 1994). Despite the numerous advantages remanufactured products offer, there remains a segment of consumers unfamiliar with the concept and holding the perception that the quality of such products is inferior to new or traditional ones. This perception adversely impacts their willingness to buy. To tackle this issue, it becomes crucial to examine elements that could intervene in the connection between consumers' understanding of eco-friendly remanufactured products and their intent to purchase. These intervening factors encompass awareness and the value people place on eco-friendly items. Studying consumer behavior concerning their comprehension of remanufactured products' eco-friendliness is intricate, as multiple factors play a role in shaping consumers' decision-making processes.

Attitude or behavior is the assessment an individual makes regarding a specific behavior (Ajzen, 1991). Over time, numerous theories have surfaced aiming to forecast human behavior. The Theory of Planned Behavior (TPB) is a consumer behavior theory used to investigate elements affecting consumer conduct. TPB indicates that consumer attitudes, subjective norms, and perceived control over behavior can impact the intention to purchase a product or service. Overall, TPB is employed across various studies exploring behavior, intentions, attitudes, and beliefs in related areas (Ajzen, 1985). Subjective norms are a sign of social pressure that a person can feel to do or not a behavior (Bashir et al., 2019).

Numerous past research endeavors have established that consumer intentions to make purchases are shaped by attitudes, subjective norms, and perceived control over their behavior (Kabel et al., 2020; Singhal et al., 2019). Consumer awareness of benefits, value awareness, moral obligation, environmental awareness, cost knowledge, and perceived risk are determinants of consumer purchasing behavior toward remanufactured products found in (Ansu-Mensah, 2021; Kusumawardani et al., 2020; Silva et al., 2020). Consumers with value awareness tend to gather more information think deeply and then make the right decision (Pillai & Kumar, 2012). However, the research findings of Lv et al., (2021) found that the similarity of new products and remanufactured products hurts consumer purchase intentions. Wang & Kuah (2017) research on remanufactured products in Asia revealed that environmentally aware consumers do not strongly value the idea of remanufactured products.

With the phenomenon related to environmental issues and the inconsistency of previous research findings, a research study related to sustainability was conducted by examining the relationship between green knowledge about remanufactured products and how value consciousness and awareness of green products can increase purchase intentions as an effort to preserve the people of Bali province.

The decision to utilize Bali as the testing ground for this conceptual model is primarily due to its status as a tourist destination that prioritizes environmental concerns, drawing from local wisdom values and guided by the Tri Hita Karana philosophy. Second, there is green knowledge of remanufactured products as an effort to implement the concept of sustainability from an environmental and economic perspective. Third, green remanufactured products are part of a circular economy that supports sustainability programs.

2. Literature Review

2.1. Value consciousness and Awareness of Green Products from the Perspective of the Theory of Planned Behavior

In the consumer decision-making landscape, value consciousness and awareness of green products are integral in shaping purchase intentions, particularly within the Theory of Planned Behavior (TPB). Value consciousness involves a consumer's recognition of the intrinsic value tied to a product or service, extending beyond immediate costs to embrace the long-term benefits of environmentally conscious choices. This mindset prompts a holistic perspective in purchasing decisions, fostering positive attitudes towards green products and influencing the intention to purchase them.

Simultaneously, awareness of green products signifies a consumer's informed stance on eco-friendly offerings. This awareness, rooted in understanding ecological features, benefits, and overall impacts, empowers consumers to make intentional choices favoring green products. The impact of this awareness lies in its ability to cultivate positive attitudes, leading to a heightened intention to purchase environmentally friendly products.

Applying the TPB, the interplay between these factors becomes evident. Positive attitudes toward green choices are shaped by heightened value consciousness and awareness. As societal norms increasingly emphasize sustainability, consumer intentions align more closely with broader environmental concerns. Moreover, the perceived control consumers feel over making eco-conscious choices enhances the likelihood of translating intentions into actual purchases.

In essence, the synergy between value consciousness and awareness of green products, analyzed through the TPB, reveals a sophisticated network influencing consumer behavior. This understanding is invaluable for businesses and policymakers, highlighting the importance of fostering value consciousness and increasing awareness to encourage sustainable consumer choices. By nurturing these elements, stakeholders contribute to cultivating a more eco-conscious marketplace, recognizing the interconnectedness of consumer attitudes, awareness, and intentions in steering towards environmentally responsible consumption.

The Theory of Planned Behavior (TPB) builds upon the Theory of Reasoned Action introduced by (Fishbein, 1979). This theory has been used by several researchers to examine the factors that influence human behavior. Ajzen initially introduced the Theory of Planned Behavior (TPB) in 1985, and since its inception, it has stood as one of the most impactful theories employed to comprehend human behavior (Nimri et al., 2020). TPB is generally applicable to several related study problems consisting of behavior, intention, attitude, and belief (Ajzen, 1985). Intention involves the exertion individuals put into their actions and is shaped by three key factors: subjective norms, attitudes, and perceived behavioral control. Subjective norms encompass the expectations and social pressures from others regarding whether a behavior should be carried out. Attitudes pertain to the assessments of favorable or unfavorable behaviors, while perceived behavioral control relates to the ease or difficulty of executing the behavior (Shirahada & Zhang, 2022). Within the framework of the Theory of Planned Behavior, the three components concentrate on the pressures within an organization and how individuals perceive and engage in knowledge sharing (GAGNÉ, 2009). TPB was used in this study to examine consumer behavior regarding the relationship between remanufactured products, awareness of green products, and value consciousness with consumer purchase intention. The findings of research conducted by (Singhal et al., 2019) showed results where attitudes and subjective norms positively influenced consumer purchase intention, while perceptions and perceived control moderately influenced consumer purchase intention. Other findings by Kim & James (2016) indicated that attitudes, subjective norms, and perceived behavioral control positively influenced the intention to make a purchase. Pisitsankkhakarn & Vassanadumrongdee (2020) supported earlier theories, in their research discovering a positive correlation between attitudes and subjective norms with consumer purchase intentions for remanufactured products. However, Pisitsankkhakarn & Vassanadumrongdee (2020) found that perceived behavioral control did not significantly impact purchase intention in their study.

The three elements in the TPB model are related to value consciousness and awareness of green products. Value consciousness is the basis of individual awareness and emphasizes personal values in the decision-making process. Values influence attitudes and subjective norms, and these two elements can influence purchase intention and behavior. Individual values contribute to attitude formation, thus influencing a person's assessment of behavior based on the values they believe in. Subjective norms can be influenced by value consciousness. Subjective norms encompass the perceived social expectations and pressures exerted by others. Value consciousness is based on individual awareness and emphasizes personal values in the decision-making process. Awareness of green products is based on attitudes, which are influenced by beliefs about the benefits of green products. Subjective norms concerning awareness of green products are individual perceptions of social norms and expectations regarding the purchase and use of green products. When individuals feel that people around them value green products, it influences their purchasing intentions. Perceived behavioral control relates to an individual's perception of their capability to engage in environmentally friendly behaviors or activities. In the context of green product awareness, product availability, affordability, knowledge, and skills are related to sustainable consumption. When individuals feel knowledgeable about green products, this can positively influence their intentions.

The Theory of Planned Behavior offers a structure to comprehend how attitudes, subjective norms, and an individual's perceived control over their actions connect with consumer intentions to participate in environmentally

friendly behaviors, such as considering the purchase of remanufactured products. Favorable attitudes, encouraging social expectations, and a sense of control can bolster someone's resolve to adopt sustainable consumption habits.

2.2. Green Knowledge of Remanufactured Products

Knowledge is an intangible and abstract asset that is independent of the real world where knowledge plays an important role in everything (Fu et al., 2022). The need for green knowledge has increased significantly as environmental challenges arise (Yu et al., 2022). Numerous attempts have been made to incorporate nature-oriented knowledge into novel concepts (M. Song et al., 2020) because fundamentally, green knowledge isn't solely about facts concerning the natural world. It encompasses extensive deliberations on how to respond to circumstances and contemplate adopting a more sustainable trajectory in environmental, social, and economic development (Yu et al., 2022). Awareness of environmental health can encourage remanufacturing practices (Wahjudi et al., 2018). Remanufactured products use less material and energy, which can contribute to reducing greenhouse gas emissions (Alyahya et al., 2023). Remanufactured products are items that have been recycled, refurbished, or enhanced from previously used goods. This process conserves materials by repurposing resources and raw materials, ultimately resulting in lower production costs and prices compared to new products (Lv et al., 2021; Ullah et al., 2021). Because less material and energy are used and less labor is required, remanufactured products are a more affordable option.

The application of sustainable practices via knowledge about remanufactured products can yield a notable and positive influence on the environment. Knowledge of environmental problems and the causes of environmental problems increases individual motivation to take responsibility for the environment (Amoako & Dzogbenuku, 2019). With knowledge and literacy related to environmental conservation, all sectors and all levels of society will be involved in the concept of sustainability. The concept of sustainability itself can provide many benefits, both in terms of health and the economy.

Findings in Amoako & Dzogbenuku's (2019) research focusing on youth green purchasing were from a company's point of view, that companies are obliged to increase their green knowledge to increase green purchasing. The results of Lv et al., (2021) research were related to new products and remanufactured products. Research related to the similarity of remanufactured products and new products obtained negative results on consumer purchase intentions and brand reputation negatively moderated the relationship between remanufactured product similarity and perceived quality of new products. Another discovery from P. Wang & Kuah (2017) suggests that environmentally aware consumers in Asia might not highly value remanufactured products. This indicates a possibility that Asian consumers, despite claiming environmental consciousness, might not exhibit environmentally friendly behavior due to their lesser emphasis on environmental benefits while making purchases.

The way individuals perceive the quality of remanufactured products stands as a primary factor shaping their intention to make a purchase (Abbey et al., 2015; Hazen et al., 2017; Vafadarnikjoo et al., 2018; Y. Wang & Hazen, 2015). The formation of perceptions undoubtedly stems from understanding remanufactured products, as familiarity with environmentally friendly items serves as a guide in selecting or exploring the significance of remanufactured goods. Thus, it is expected that with green knowledge, consumers can understand the contribution of remanufactured products to the environment and the concept of sustainability, which will later lead to purchase intention and behavior. Therefore, the following hypothesis is proposed :

H1: The better the green knowledge of remanufactured products, the more it will increase purchase intention.

2.3. Value Consciousness

Before discussing value consciousness, it is necessary to know the correlation between awareness and value in psychology. Research by Drob (2020) on the axiology model stated that awareness and value are interrelated, where the desired instrument in awareness has the function of directing attention, interest, and motivation, and there are related values, namely satisfaction and fulfillment. Value consciousness was said to be an assessment of buying a product at a price that matches the quality received (Lichtenstein et al., 1993). When consumers realize the value of a product, they are considered responsible for their purchasing decisions (Randhawa et al., 2015). Consumers who have an awareness of value tend to pay attention to the suitability of low prices and product quality (Ismail et al., 2019). The balance between the quality received and the price is a measure of consumer awareness of value. Consumers focus on low prices but still pay attention to quality. Bhatia (2018), it was said that consumers who have an awareness of the value of buying counterfeit products tend to underline low prices and sacrifice product quality because the practical needs and basic values of counterfeit products have been met. Value awareness is not only determined by the proportion of price and product quality; the ease of purchase, product effectiveness, and time spent also trigger consumer awareness of product value (Ghosh et al., 2021; Ismail, 2017).

According to P. Wang & Kuah (2017), consumers who prioritize value are inclined to buy remanufactured products. When consumers perceive remanufactured products as eco-friendly, it enhances their intent to purchase. Another finding by Kusumawardani et al., (2020) found that attitudes are influenced by value awareness, brand awareness, and social influence where the more consumers are aware of what they are buying, the more consumers will understand the value of the product, and that will shape attitudes. Itani et al., (2019) stated that value-conscious consumers know the quality, price, and benefits of products and services. Research conducted by Randhawa et al., (2015) on counterfeit products and value consciousness indicated that consumers are more inclined to purchase counterfeit goods when they perceive them to offer substantial value at a lower cost. The findings in Soesanto & Halim (2020) research examining fast fashion brand marketing stated that any marketing activities through social media do not have much influence on consumers who have value awareness. Fast fashion is a term in the textile industry that refers to a variety of fashion models or designs that change in a short time. From this, it can be said that consumers who are aware of value will consider buying fast fashion brands because consumers who have awareness of value will consider the quality aspects of a product. Therefore, the following hypothesis is proposed :

H2: The higher the green knowledge of remanufactured products, the higher the value consciousness.

2.4. Awareness of Green Products

Green products are a term used to define a product where the product uses environmentally friendly resources and contributes to preserving the environment (Ansu-Mensah, 2021) Awareness of green products is the ability of consumers to remember green products. In research by M. Ritter et al., (2015), consumer awareness of green products can be triggered through product labeling, packaging, and advertising. Research by H. V. Nguyen & Nguyen (2018) stated that if consumers are aware of the performance and benefits of green products, the goal of maintaining the environmental ecosystem will be achieved. Awareness of green products can influence consumer decision-making (Ogiemwonyi & Harun, 2020). Awareness of green products is based on attitudes, where attitudes are influenced by beliefs about the benefits of green products. Subjective norms are individual perceptions of the social environment of society or it can be said that the values contained in the social environment encourage individual attitudes to remember green products. Control over behavior pertains to an individual's perception of their capability to recall and utilize environmentally friendly products.

Awareness of green products is needed to improve consumers' ability to effectively assess available environmentally friendly products and choose products that meet consumer needs (Alamsyah, 2021). Consistent with earlier studies, Yi (2019) findings suggest that having an awareness of green products holds significant importance within the consumer purchasing process. Ansu-Mensah's (2021) findings indicated that familiarity with environmentally friendly products influenced consumers' intentions to purchase, driven by factors like pricing, perceived value, and superior quality. When consumers are knowledgeable about green products, they tend to develop an awareness that translates into intentions to purchase, as highlighted by (Wong & Tzeng, 2021).

In their study, Wong & Tzeng (2021) observed that although there isn't a direct influence of green product awareness on consumer purchase intention, mediating factors specifically, attitudes toward food safety and awareness of labeling play a role in mediating the connection between green product awareness and consumer purchase intention. Green awareness changes consumers' point of view about green products where consumers begin to reduce the use of conventional products to environmentally friendly products and even recommend them to others (Suki, 2013). Looking at the findings of previous results, awareness of green products can increase consumer purchase intention with the encouragement of several indicators such as literacy related to environmentally friendly products. Therefore the following hypothesis is proposed :

H3: The higher the green knowledge of remanufactured products, the higher the awareness of green products.

2.5. Purchase Intention

Purchase intention is a consideration of subjective desire for a product which can be an important clue to consumer predictive behavior (Fishbein & Ajzen, 1975). Other researchers define purchase intention as a consumer's desire to buy and often describe it as the relationship between purchase behavior and consumer selection behavior for a product (Farid et al., 2023; Pandey & Syam, 2023; Y. Song et al., 2023; W. Zhang et al., 2023). Consumer purchase interest is related to purchasing behavior, where interest is triggered by indicators such as quality, effectiveness, price, usefulness, and so on. Studies on green consumption consist of practices that focus on studies that explain the various factors that influence purchase intention and consumption of green products (Pandey & Syam, 2023). Y. Wang et al., (2013) asserted that purchase intention stands as the most proximate variable utilized in predicting consumer buying behavior. Additionally, Y. Wang & Hazen (2015) highlighted in their research that perceived risk and perceived value

hold significance as factors influencing consumer intentions to purchase remanufactured products. Furthermore, Y. Wang & Hazen (2015) examined supply chain research, indicating that within various supply chain functions, like consumer intent to purchase and utilize remanufactured products, the supply chain serves as a predictive element for behavioral intentions.

Numerous research studies have been undertaken to assess markers of consumer intent to purchase, including factors like product understanding, quality, societal expectations, value, and perceived risk (Kamboj et al., 2023; Y. Wang & Hazen, 2015; L. Zhang et al., 2023; W. Zhang et al., 2023). Research examining consumer purchase intention collaborates with many indicators that can support consumer purchase intention. Kabel et al., (2020) discovered that evaluating consumer intent to purchase can be accomplished through attitudes, which hold the most substantial impact on purchase intention. These attitudes are notably influenced by product quality, perceived risk, pricing advantages, social pressures, and the accessibility of remanufactured products. Product quality and price are indicators in P. Wang & Kuah (2017) research to encourage purchase intention. Knowledge of green products is related to awareness of green products, which can trigger green product purchase intentions (Ansu-Mensah, 2021). Therefore, we propose two hypotheses, as follows :

H4: The higher the value consciousness, the higher the purchase intention.

H5: The higher the awareness of green products, the higher the purchase intention will be.

2.6. Value Awareness and Awareness of Green Products as Mediating Variables

Value consciousness and awareness of green products are a novelty of research to be studied. The use of these two variables refers to previous studies involving research indicators. Value awareness among consumers can contribute to consumer purchase interest (P. Wang & Kuah, 2017). A consumer's inclination to purchase a product or service is rooted in the inherent values they perceive within the product or service (Ismail et al., 2019). Concerning green products, consumers with environmental awareness are aware of products that have benefits for the environment. Indicators such as product packaging, product benefits, and their contribution to the environment can encourage the behavior of interest in purchasing environmentally friendly products (M. Ritter et al., 2015; H. V. Nguyen & Nguyen, 2018). Ansu-Mensah's (2021) study identified factors like pricing, high value, and superior quality as indicators that stimulate awareness of green products and shape the intention to purchase environmentally friendly items. Based on previous research, this study will apply value consciousness and awareness of green products as mediating or intervening variables. Therefore, we propose two hypotheses, as follows:

H6: Value consciousness can mediate the relationship between green knowledge of remanufactured products and purchase intention.

H7: Green product awareness can mediate the relationship between green knowledge of remanufactured products and purchase intention

Research Model. Based on the hypotheses developed in the previous section, the research model is shown in Figure 1.

3. Research Method and Materials

A sample of 325 individuals was drawn from the overall population of Bali province to gather data. The distribution of questionnaires was carried out online. Out of the 325 questionnaires distributed, 270 responses were received, with the remaining 55 questionnaires left unanswered. To determine the measurement indicators, the author adopted several studies. First, green knowledge indicators of remanufactured products were adapted from studies by Ramirez et al., (2015), Silva et al., (2020), P. Wang & Kuah (2017), which consisted of environmentally friendly, helping to preserve resources, reducing waste, and reducing pollution. Second, indicators of value consciousness were adapted from studies by Bhatia (2018), Randhawa et al., (2015), Silva et al., (2020) consisting of price and quality, considering buying, looking cheap, low price, and certain requirements. Thirdly, the measure of green product awareness, derived from Ansu-Mensah (2021) research, encompassed comprehensive comprehension of green products, recognition of pricing, acknowledgment of value, differentiation between green and traditional products, and consciousness regarding purchasing green products to promote sustainability. Fourth, purchase intention indicators were adapted from studies by Bhatia (2018), Kabel et al., (2020) Pandey & Syam (2023) consisting of product quality, perceived risk, community influence, product availability, as a choice, and environmental benefits.

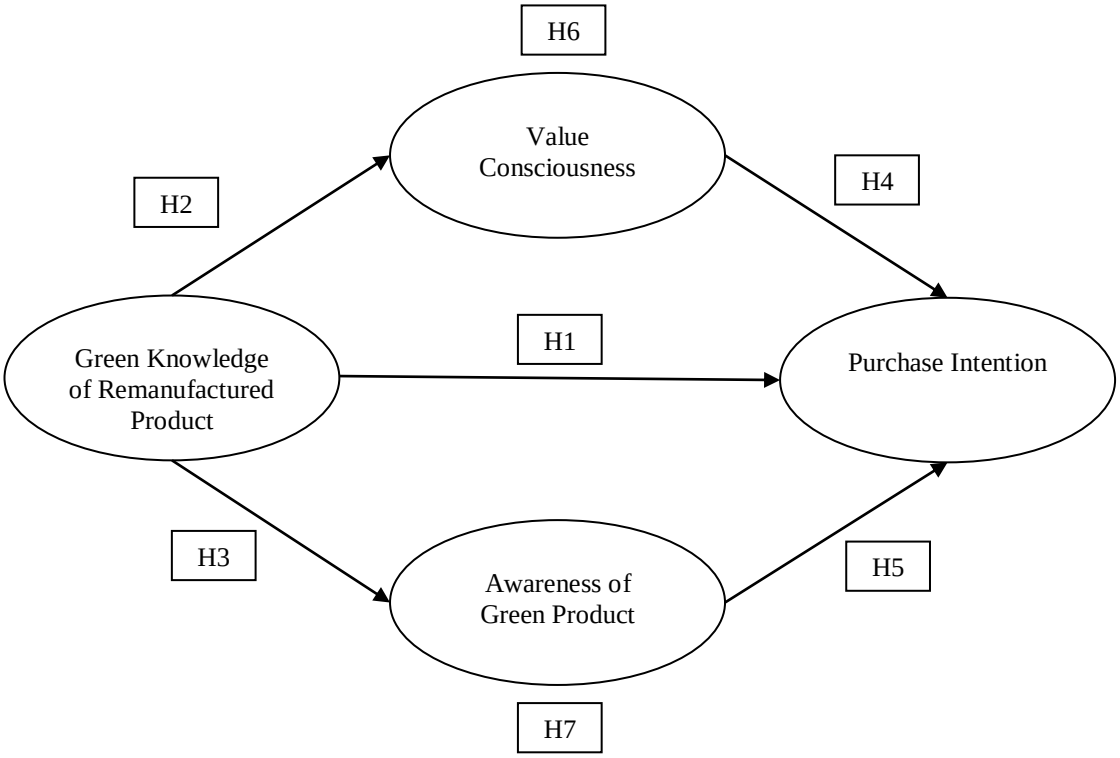

Figure 1. The Framework and Hypotheses Underpinning The Research Study

4. Results and Discussion

In this study, the analysis of research data employed structural equation modeling (SEM) via AMOS version 23 software. SEM allows for the examination of intricate causal connections between variables. Furthermore, it facilitates simultaneous analysis across multiple research variables (Tabachnick & Fidell, 2012).

The validity test results are determined based on the extract of variance value. The qualified value is ≥ 0.5. The results of the variance extract test indicate that each latent variable is the result of considerable extraction from its dimensions. Measurement of instrument validity with AVE convergence validity produces good results for each construct: 0.504, 0.550, 0.600, 0.521 for green knowledge of remanufactured product, awareness of green product, value consciousness, and purchase intention. The AVE index shows a value ≥ 0.5, then the instrument can be considered valid. Reliability refers to the degree of trustworthiness in the outcomes of a measurement. The results of a new measurement can be trusted if, after several attempts at carrying out measurements of the same group or subject, the same measurement results are obtained (Djaali, 2020). The reliability test is fulfilled when each variable shows Construct Reliability (CR) ≥ 0,7. The Construct Reliability index used to measure the reliability of green knowledge of remanufactured products, awareness of green products, value awareness, and intention to purchase was 0.801, 0.857, 0.882, and 0.866, respectively. The Construct Reliability value shows a value ≥ 0.7, so the instrument can be considered reliable.

If the Critical Ratio (CR) exceeds 1.960 and the P-value is less than 0.05, the hypothesis is considered notably positive. According to Table 5, Hypothesis 1 records a CR value of 1.960 and a P-value of 0.050. Consequently, there is no significant relationship between the variables Green Knowledge of Remanufactured Products and Purchase Intention. For Hypothesis 2, the CR value stands at 3.296 with a P-value of 0.000, indicating a notable positive relationship between Green Knowledge of Remanufactured Products and Value Awareness. Hypothesis 3 shows a CR value of 2.751 alongside a P-value of 0.006, demonstrating a significant positive relationship between Green Knowledge of Remanufactured Products and Green Product Awareness. Considering Hypothesis 4, the CR value is 3.282 and the P-value is 0.001, signifying a notably positive relationship between Value Awareness and Purchase Intention. In Hypothesis 5, the CR value of 6.726 and a P-value of 0.001 indicate a significant positive relationship

between Green Product Awareness and Purchase Intention. The goodness of fit test outcomes indicated that over three criteria met the required cut-off value or were deemed fitting, including CMIN/DF, RMSEA, GFI, TLI and CFI. When more than three indicators meet these criteria, the model's goodness of fit can be considered satisfactory (Shi et al., 2018).

Table 1. Measurement of Validity and Reliability

VARIABLE & INDICATOR	REFERENCE	STD. LOADING (Lambda Value)	CV-AVE ≥0,05	CRI ≥0,07
Green Knowledge of Remanufactured Product	(Ramirez et al., 2015; Silva et al., 2020; P. Wang & Kuah, 2017)		0.504	0.801
Environmentally friendly		0.578		
Help conserve resources		0.538		
Reduce waste		0.689		
Decrease pollution		0.681		
Value Consciousness	(Bhatia, 2018) (Randhawa et al., 2015) (Silva et al., 2020)		0.550	0.857
Price and quality		0.541		
Considered to buy		0.799		
Appears to be a bargain		0.632		
Low price		0.727		
Certain requirements		0.611		
Awareness of Green Products	(Ansu-Mensah, 2021)		0.600	0.882
Detail knowledge and understanding of green product		0.609		
Awareness of price		0.628		
Awareness of value		0.698		
Awareness of the difference between green products and conventional products		0.679		
Being aware of buying green product contribute to sustainable		0.676		
Purchase Intention	(Bhatia, 2018; Kabel et al., 2020; Pandey & Syam, 2023)		0.521	0.866
Product quality		0.588		
Perceived risk		0.677		
Community influence		0.643		
Availability product		0.547		
As a choice		0.69		
Environmental benefit		0.737		

The variable Green Knowledge of Remanufactured Products indicates an insignificant correlation, suggesting a lack of direct relationship between the two. In this research, the Sobel test was employed to assess the impact of intervening variables. According to the Sobel test outcomes detailed in table 6, the Value Awareness variable registers a z value of 2.32, surpassing 1.96 at a 5% significance level. This substantiates the role of Value Awareness as a mediator between Green Knowledge of Remanufactured Products and Purchase Intention, thereby supporting the acceptance of Hypothesis 6. Similarly, the Sobel test results for the Green Product Awareness variable demonstrate a z value of 2.55, exceeding 1.96 with a significance level of 5%. This confirms that Green Product Awareness can serve as a mediator between Green Knowledge of Remanufactured Products and Purchase Intention, consequently validating the acceptance of Hypothesis 7.

This study develops a conceptual model that aims to answer the research question of how green product literacy knowledge can significantly increase consumer purchase intention for remanufactured products, supported by value awareness and consumer awareness of green products. First, the research found no notable positive correlation between understanding remanufactured products' green aspects and the intent to purchase. This outcome contrasts with the prior study conducted by Amoako & Dzogbenuku (2019), indicating that familiarity with eco-friendly elements could drive individuals to purchase environmentally conscious products. It seems that merely grasping the concept of environmentally friendly products doesn't suffice to elevate consumers' inclination to purchase them.

Additional factors must be considered to complement the comprehension of green products and bolster consumers' eagerness to buy them.

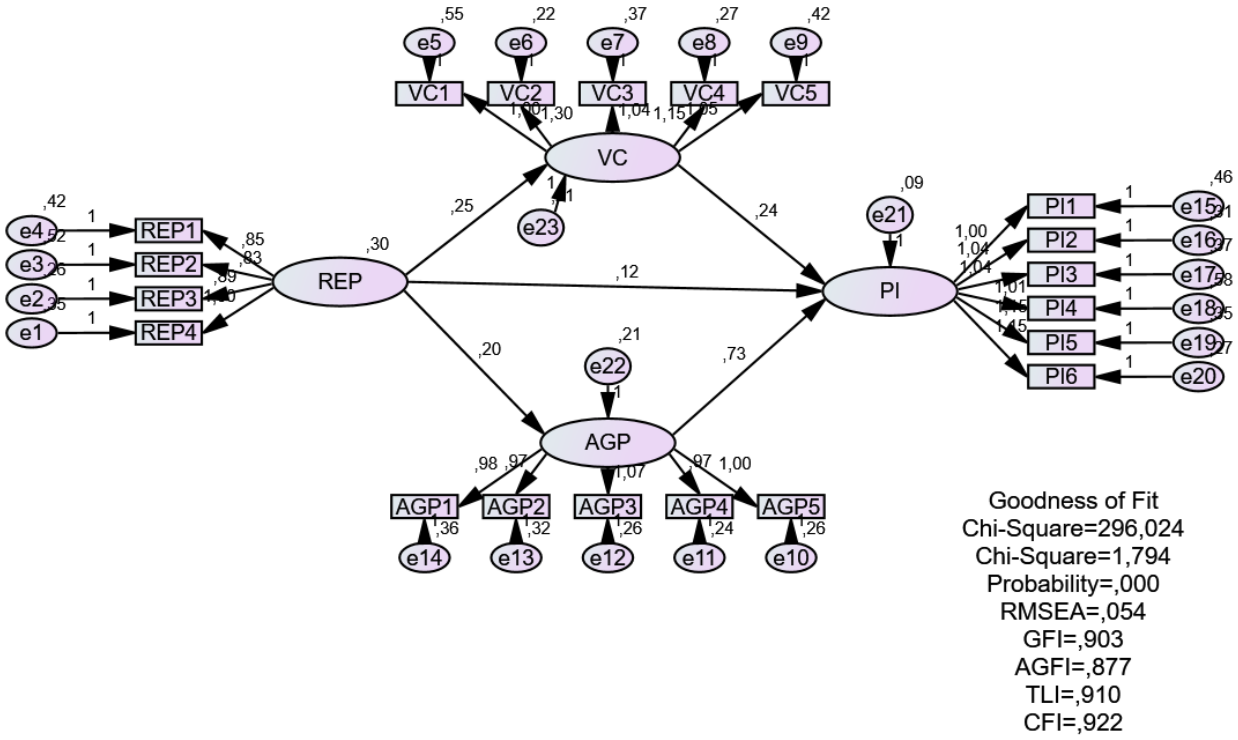

Figure 2. Structural Equation Model Testing

Table. 2 Hypothesis Testing Criteria

Hypothesis	**Path**	**Estimate**	**S.E.**	**C.R.**	**P-value**
H1	REP→PI	0,143	0,073	1,960	0,050
H2	REP→VC	0,298	0,090	3,296	0,000
H3	REP→AGP	0,226	0,082	2,751	0,006
H4	VC→PI	0,235	0,072	3,282	0,001
H5	AGP→PI	0,742	0,110	6,726	0,000
Goodness of Fit Test		**Cut-off Value**		**Result**	**Conclusion**
χ^2 *– Chi Square*		< 237,240		296,024	Marginal Fit
Probability		≥ 0,05		0,000	Marginal Fit
CMIN/DF		≤ 2,00		1,794	Good Fit
RMSEA		≤ 0,08		0,054	Good Fit
GFI		≥ 0,90		0,903	Good Fit
AGFI		≥ 0,90		0,877	Marginal Fit
TLI		≥ 0,95		0,910	Good Fit
CFI		≥ 0,90		0,922	Good Fit
Sobel Test				**z**	**P-value**
REP→VC→PI				2,32	0,020
REP→AGP→PI				2,55	0,010

Second, a significant positive association materialized between an Green Knowledge of Remenufactured Products and Value Consciousness. A grasp of environmentally sound remanufactured goods can sway consumers' perception of these items. Those well-versed in sustainable remanufactured products and their advantages demonstrate an appreciation for the value of environmentally friendly items. These findings corroborate the outcomes of P. Wang & Kuah (2017) study, underscores that consumers exhibiting value consciousness tend to favor remanufactured product purchases.

Third, a substantial positive link emerged between Green Knowledge of Remanufactured Products and Awareness of Green Products. Acquaintance with sustainable practices stimulates environmental consciousness. These findings mirror Wong & Tzeng (2021) research, suggesting that consumers knowledgeable about green products display an awareness that translates into a proclivity to purchase.

Fourth, the connection between Value Consciousness and Purchase Intention demonstrated a noteworthy positive outcome. Consumers cognizant of the inherent values within eco-friendly products express a desire to acquire them. This assertion is in line with P. Wang & Kuah (2017) study, where consumer awareness of these values propels purchase intent.

Fifth, the correlation between Awareness of Green Products and Purchase Intention displayed significantly positive outcomes. An individual's consciousness of environmentally friendly items correlates with their comprehension of the importance of preserving environmental sustainability. Consumers' interest in purchasing remanufactured products aligns with their level of awareness concerning environmentally friendly items. Corresponding to Ansu-Mensah (2021) findings, awareness of environmentally friendly products influences consumer interest in purchasing such items.

Sixth, variables such as value consciousness and awareness of green products mediate the correlation between understanding remanufactured green products and purchase intent. Hypothesis 1 results show that there is no meaningful direct correlation between the understanding of environmentally friendly remanufactured products and the desire to buy them. The presence of mediating variables is expected to increase consumer purchase interest in these products. The inclusion of these two mediating variables stems from disparities in prior research conducted by Lv et al., (2021); P. Wang & Kuah (2017); Wong & Tzeng, (2021) regarding product similarity, consumer consciousness, and purchasing intent. By amalgamating research parameters from diverse sources, researchers unveiled significantly positive outcomes. These findings mirror the conclusions drawn from research by Ansu-Mensah (2021); P. Wang & Kuah (2017), indicate that awareness of values contributes to consumer purchase intent, while consumer consciousness of green products influences their intent to purchase.

5. Conclusion

This study has investigated the complex relationship between important variables in the context of purchasing environmentally friendly remanufactured products. The analysis outcomes regarding the impact of Green Knowledge of Remanufactured Products as an independent variable, Purchase Intention as the dependent variable, and two intermediary variables Value Consciousness and Awareness of Green Products were examined.

The results of the data analysis showed significant and valuable findings. First of all, we can confirm that Green Knowledge of Remanufactured Products played a very important role in influencing customers' awareness of green products and their awareness value of the products, this is in line with the findings in (Joshi & Rahman, 2015) study. This was a finding that was in line with our expectations, given that knowledge of environmentally friendly remanufactured products will naturally increase customers' awareness and understanding of these products. Second, the results of the data analysis were in line with the research Ansu-Mensah (2021); P. Wang & Kuah (2017) showed that Value Consciousness and Awareness of Green Products mediated the relationship between Green Knowledge of Remanufactured Products and Purchase Intention very significantly. Previously, researchers found that green knowledge of remanufactured products has no direct influence on consumer purchase intention. However, the role of the variables Value Consciousness and Awareness of Green Products as an introduction turned out to make a meaningful contribution. This indicated that knowledge of environmentally friendly remanufactured products not had a direct impact on customer purchase intentions but through creating awareness of the value of environmental and product awareness (Amoako & Dzogbenuku, 2019; Ansu-Mensah, 2021; P. Wang & Kuah, 2017). This was an important finding as it showed that customers who had better knowledge of environmentally friendly remanufactured products were not only more likely to purchase such products directly but were also more likely to consider environmental value factors in their purchase decision-making. Third, Purchase Intention, as the dependent variable, was also found to be positively influenced by Awareness of Green Products and Value Consciousness where this finding was in line with research (Ansu-Mensah, 2021; P. Wang & Kuah, 2017; Y. Wang & Hazen, 2015). This showed that customers who had a higher level of awareness about green products and had a strong environmental value consciousness tended to have a higher intention to purchase environmentally friendly remanufactured products. Therefore, customers' awareness and understanding of environmental and product values acted as a strong mediator in influencing purchase intentions. In addition to these key findings, the results of the data analysis also revealed that other variables such as age, education, and income had a significant influence in this context. For example, customers

with higher levels of education tended to have a higher level of awareness about green products and environmental values, which in turn affected their purchase intentions (Ansu-Mensah, 2021). Similarly, customers with higher incomes may be better able to afford remanufactured products that may have a slightly lower price than new products (T. Van Nguyen et al., 2020).

The study's findings held significant implications for formulating marketing strategies tailored to environmentally sustainable remanufactured products. Companies can utilize customers' knowledge of remanufactured products as a starting point to increase their awareness of the value of environmental awareness and products (Zou et al., 2019). In addition, companies should also consider demographic factors such as age, education, and income in designing more effective marketing campaigns. Likewise, companies need to develop products and services that pay attention to customers' environmental awareness and the value of their awareness. In line with Ahmad et al.'s research, this could include offering products that focus on environmental aspects or communicating the company's commitment to environmental sustainability. In addition, the results of this study can guide regulators and industry stakeholders in developing policies that support green products and environmental awareness among customers. Supportive regulations and environmental incentives can motivate firms to adopt more sustainable business practices and environmentally friendly products.

This research has provided valuable insights into how knowledge of environmentally friendly remanufactured products could influence customers' purchase intentions through the mediation of their green awareness and awareness scores. This is an important step in understanding customer purchasing behavior in the context of green products and can help companies and other industry stakeholders take more appropriate actions in setting marketing strategies to help encourage the purchase of green remanufactured products for the sustainability of our environment.

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