

## ASSESSING GREEN PURCHASE BEHAVIOUR OF ESG-CONSCIOUS COMMUNITIES IN TERTIARY EDUCATION IN MALAYSIA

SHAHIMI, W. R. M. A. S.<sup>1</sup> – WOO, K. H.<sup>1\*</sup> – YEO, A. C. E.<sup>1</sup> – CHONG, W. H.<sup>1</sup> – SOR, A. Y.<sup>1</sup> – WONG, J. Y.<sup>1</sup>

<sup>1</sup> Faculty of Business and Finance, Universiti Tunku Abdul Rahman, Perak, Malaysia.

\*Corresponding author  
e-mail: khwoof[at]utar.edu.my

(Received 21<sup>st</sup> January 2025; revised 15<sup>th</sup> April 2025; accepted 23<sup>rd</sup> April 2025)

**Abstract.** Environmental concerns are reflected in various initiatives driven by issues related to environmental sustainability. It is ecologically advantageous, achieving net zero carbon emissions and preserving the environment by minimizing waste impacts on the ecosystem. The study develops a framework for analyzing consumer behaviour related to the purchase of green products by analyzing the patterns of consumers within the tertiary educational community in Malaysia. A sample of 391 respondents and a structural model utilizing cross-sectional data from the first two quarters of 2024, was tested with structural equation modelling of Smart PLS 4.0. The research aims to analyze consumer behavioural responses regarding green purchasing behaviours through the serial mediation effects of intention and attitude, influenced by the input variables of environmental concern and monetary value on the green cognizance community of tertiary due to their inclusiveness to a new ideal. The study clarified the connections between monetary value and environmental concern, in shaping green purchase intention, attitude, and behaviour within the framework of planned behaviour theory. The empirical results show the purchase intention able to influence attitudes toward green products among the community with high environmental awareness. Empirical findings suggest that content marketing should increase emphasis on conveying a positive green message within a feasible marketing mix.

**Keywords:** *attitude, environmental concern, green product purchase intention, green purchase behaviour, monetary value*

### Introduction

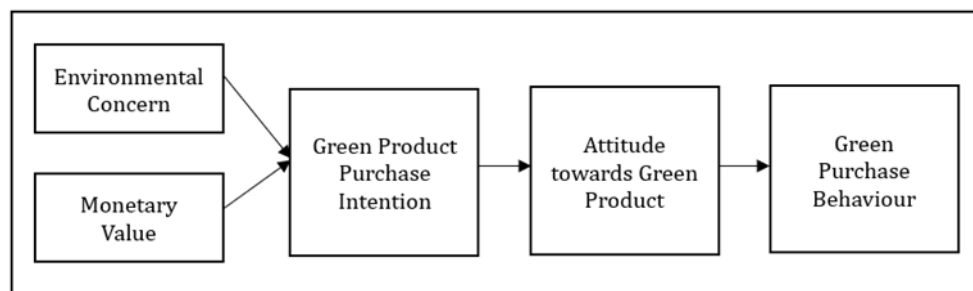
The principal emphasis of the global development goals is driven by sustainable development. The absence of awareness, elevated costs of eco-friendly products, limited retail distribution for the shopping experience and rigid purchasing habits render this issue problematic. Sustainable consumerism reinforces environmental awareness as it essentially reflects consumers' enthusiasm for responsible consumption and purchasing choices driven by environmental sustainability rather than individual appeals (Patiño-Toro et al., 2024). The study stresses the significance of environmental sustainability of social consciousness individuals in influencing purchasing intentions and modifying consumption attitudes within populations knowledgeable and concerned about eco-friendly practices in tertiary communities. Despite the elevated expenses associated with environmentally friendly purchases, cultivating a positive attitude towards this tough option is essential, driven by beneficial environmental outcomes (Cesarina Mason et al., 2022; Cheung and To, 2019). The analysis of green purchasing is essential in the current setting due to several environmental issues stemming from inadequate urban planning and unsustainable practices in flood management and deforestation. The behavioural study on the attitude-behaviour relationship is not well comprehended in terms of the hierarchical influence of attitude-intention-behaviour. Simultaneously, analysing the

intention-attitude-behaviour purchase decision process may enable the development of innovative models that integrate two opposing schools of thinking in behavioural science, specifically the theory of planned behaviour and the theory of cognitive dissonance. The purpose of the study is to refine the relevant variables that promote favourable customer purchasing decisions about green products, hence improving responsible corporate practices and a sustainable society.

### **Literature review**

#### **The theory of planned behavior**

The planned behaviour theory (TPB) proposed initially by Ajzen (1991) proposes that behavioural response is driven by a collection of attitudes, subjective norms, and perceived behavioural control. It shapes behavioural intention and ultimately influences actual behaviour. Attitude towards green products indicates the respective positive or negative individual's perception of green products aligns with TPB's premise. As attitudes influence behavioural intention. Subjective norms (e.g. influences of peers or societal expectations) although not clearly depicted in *Figure 1*, may implicitly affect green product purchase intention, particularly through green initiatives, which could represent external societal influences on consumers. Monetary value indirectly relates to perceived behavioural control, since it serves as a determinant affecting the practicality of purchasing green products. If monetary value is elevated, the control to execute purchase intentions might decrease. The intention to purchase green products is clearly illustrated in *Figure 1* as a mediator between concerns, whether environmental or monetary and behaviour. In a sense of actual behaviour, green purchase behaviour represents the outcome influenced by intention, attitude, and external factors as stated earlier.



**Figure 1.** Research conceptual framework.

#### **Attitude-behaviour gap**

The attitude-behaviour gap signals the divergence between consumers' positive attitudes toward sustainable products and their actual purchasing behaviour (Carrington et al., 2010). In other words, individuals express positive attitudes toward a behaviour (e.g., buying green products) yet fail to regularly convert this attitude into action (Park and Lin, 2020; Farjam et al., 2019; Nguyen et al., 2019; Papaoikonomou et al., 2011). The path from attitude toward green products to green purchasing behaviour suggests that positive attitudes, may not necessarily translate into action. It is limited by monetary barriers and intensified environmental concerns. The inclusion of monetary value worsens the gap as financial constraints often deter consumers from turning positive attitudes and intentions into actual purchases. Although environmental concern

is a strong predictor of intention, it often fails to predict actual behaviour without facilitating external conditions. Attitude-behaviour gap bridge by providing external support for green products (e.g., enhance affordability, increase promotional efforts, prove incentives, or reduce costs). The conceptual framework for this study is as in *Figure 1*.

### ***Hypothesis development***

#### ***Environmental concern and green product purchase intention***

Environmental concern is characterized as a psychological component affecting an individual's tendency to engage in environmental behaviour (Zelezny and Schultz, 2000). This concept emerged in the 1960s, as evidenced by individuals who refrained from purchasing particular products due to their hazardous impact on the environment (Pudaruth et al., 2015). Prior studies suggest that green purchase intentions are significantly affected by being environmentally conscious. Aman et al. (2012) discovered that consumers with significant environmental concerns exhibit an increased intention to purchase green products. Correspondingly, Ye (2022) stated that highly environmental concerns individuals are more impulsive in purchasing intentions, while those with low concerns are influenced by subjective norms. In Malaysia, Yogananda and Nair (2019) revealed a significant association between environmental concerns and green purchase intentions. Numerous studies indicate that students' intentions to purchase green products are profoundly shaped by environmental awareness. Kim and Choi (2005) found U.S. undergraduates' environmental concerns influenced their green purchase intentions, while Irawan and Darmayanti (2012) noted a similar trend among Indonesian students. However, while environmental concerns are recognized, there is no consistent pattern in green purchasing behaviour. Although environmental concerns characterise consumers, there may be a tendency to cast off eco-products (Singh et al., 2024). Thambiah et al. (2015) observed that environmental concerns among youths do not always translate into green purchases, with some consumers sceptical about the ecological efficacy of green products (Shanmugam et al., 2022; Chen and Zhang, 2021; Mishal et al., 2017). Therefore, this study proposes the following hypothesis:

*H1: Environmental Concern has a significant influence on Green Product Purchase Intention.*

#### ***Monetary value and green product purchase intention***

Monetary value denotes the cash price paid for the reacquisition of assets, products, or services, corresponding to their economic worth. It includes the expenses, advantages, and total economic worth associated with an item. Consumers are more likely to purchase green products if they possess a reasonable and justifiable monetary value relative to their benefits (Zhang and Khachatryan, 2020; Sharaf and Isa 2017). Research by Masri et al. (2020), Qomariah and Prabawani (2020) as well as D'Souza et al. (2007) supports this, showing that students are more inclined to purchase green products when they perceive a high monetary value based on their evaluation of pricing and product benefits. Consumers who perceive a high monetary value, along with extensive product knowledge are more likely to purchase green products (Qomariah and Prabawani, 2020; Kuo et al., 2009; D'Souza et al., 2007). Consumers are more inclined to purchase green products when they perceive the price as appropriate and reasonable

(Zhang and Khachatryan, 2020; Sharaf and Isa, 2017). D'Souza et al. (2007) indicated that consumers may avoid purchasing green products if they perceive them as expensive. Despite this, price continues to be the primary determinant of green product intentions (Kuo et al., 2009). The inclination of consumers to buy green products is indirectly influenced by their sensitivity to price (Sun and Wang, 2020). Wei et al. (2022a) noted that equitable pricing and extensive product knowledge enhance the monetary value, increasing purchase intentions by aligning the disparity between internal price signals with actual prices, thereby boosting transaction utility (Yuan et al., 2022). This suggests that monetary value remains a barrier, especially in emerging economies where economic considerations may outweigh environmental considerations in purchase intentions. Therefore, this study proposes the following hypothesis:

*H2: Monetary Value has a significant influence on Green Product Purchase Intention.*

### ***Green product purchase intention and attitude towards green product***

In general, attitude defines a person's mental state towards a situation or object, hence affecting their decision-making regarding behaviour. In the context of green products, attitude denotes perceptions that are shaped by beliefs about environmental issues, product quality, personal values and sustainability (Tawde et al., 2023; Nguyen et al., 2019). Wijekoon and Sabri (2021) determined attitude towards green products as the significant predictor of purchase intentions for such products, exceeding environmental concern, perceived consumer effectiveness, and social influence. Positive attitudes towards environmental sustainability, risk mitigation and conservation significantly drive consumer purchase intentions (Nguyen et al., 2019; Yadav and Pathak, 2017). Vermeir and Verbeke (2006) established that individuals with robust positive attitudes towards environmental issues are significantly more inclined to purchase green products, viewing these choices as beneficial to both the environment and personal well-being. Most recently, Hassan et al. (2024) proved positive attitudes towards carbon footprint resulted in higher purchase intentions in Malaysia. In a similar vein, Biswas and Roy (2015) added the strength of this relationship varies across consumer segments including environmental knowledge, marketing and social influence. Elements such as green marketing (Ahmed et al., 2023), consumer perceptions (Gupta and Singh, 2024), and environmental effects (Islam et al., 2023) positively shape attitudes and green purchase intentions. Demographics, like educational qualifications, also play a role in green consumption tendencies (Nguyen et al., 2019). However, Nonetheless, the attitude-behavior gap persists, requiring additional examination to address this discrepancy. Therefore, this study proposes the following hypothesis:

*H3: Green Product Purchase Intention has a significant influence on Attitude towards Green Product.*

### ***Attitude towards green product and green purchase behaviour***

Green behaviour denotes pro-environmental actions including the purchase of sustainable products, utilises fewer resources and poses lower environmental impacts and hazards. While an individual with a favourable attitude towards the environment

demonstrates heightened awareness which motivates the substitution of conventional products with green products. Cheung and To (2019) discovered that attitudes positively enhance green purchase behaviour for high-quality products in contrast to low-quality products. Influenced by their attitudes, consumers may behave morally obligated to purchase green products if these products are superior (Cheung and To, 2019; Rahimah et al., 2018; Kim and Choi, 2005). Nosi et al. (2020) argued that attitude is the most crucial factor in determining consumers' buying behaviour as aligned with Liang (2016). Studies by Amoako et al. (2020) as well as Kautish and Sharma (2019) found a significant positive relationship between green attitude and green behaviour among the youth. Understanding the factors that shape youth behaviour toward green products is crucial for both theoretical and practical insights (Alzubaidi et al., 2021; Kautish and Sharma, 2019). Collectively, these findings support the environmental TPB, indicating positive green attitudes foster robust pro-environmental behaviour (Mancha and Yoder, 2015). Nonetheless, although attitudes towards green products serve as a significant predictor of green purchase behaviour, the relationship is not always straightforward. The attitude-behaviour gap reveals that positive attitudes do not always translate into actual behaviour, due to additional influencing factors in addressing their inconsistency (Park and Lin, 2020; Cheung and To, 2019; Mishal et al., 2017; Vermeir and Verbeke, 2006; Kim and Choi, 2005). Consequently, these factors will be addressed by incorporating hypotheses in the subsequent section. Therefore, this study proposes the following hypotheses:

*H4: Attitude towards Green Product has a significant influence on Green Purchase Behaviour.*

#### ***Green product purchase intention as a mediator for monetary value and attitude towards green product***

The relationship between monetary worth and beliefs of eco-friendly products is frequently complex. Although customers recognise the advantages of green products, this recognition does not invariably lead to a positive outcome (Laroche et al., 2001). The objective of obtaining green products may enhance their financial worth by consolidating their connected benefits, positively affecting perceptions (Lee, 2008). Under these conditions, green purchase intention may serve as a crucial mediating component. Despite limited studies on this, some have investigated the correlation between monetary value, attitudes towards green products and purchase intentions. The elevated cost may be a barrier, especially for price-sensitive consumers, and can hinder the transformation of their favourable attitudes into actual purchase intentions. Farjam et al. (2019) identified practical barriers such as time, monetary value and knowledge, that hinder pro-environmental attitudes into action. They revealed that individuals prefer to pay a premium to mitigate cognitive dissonance between the pro-environmental attitudes and the rational understanding of the environmental impact of their behaviour intention, given that it is at a minimal level. These results align with Wei et al. (2022b) and Suh et al. (2012), revealing a negative association between attitude and organic purchase intentions highlighting the complexity of the decision-making process, in which attitude alignment is contingent upon costs. Wei et al. (2022a) further emphasized that this negative relationship can be mitigated by factors like product knowledge, environmental concern, and perceived quality, which can enhance purchase intention. Consumers may exhibit a strong tendency to buy eco-friendly products, even

at higher prices, contingent upon their favourable attitudes towards environmental sustainability (Wei et al., 2022b; Farjam et al., 2019). This mediating relationship suggests that green products may influence the association between monetary value and consumer attitude. Therefore, this study proposes the following hypothesis:

*H5: Green Product Purchase Intention significantly mediates the relationship between Monetary Value and Attitude towards Green Product.*

#### ***Attitude towards green product as a mediator for green product purchase intention and green purchase behaviour***

The TPB proposed by Ajzen (1991) explain this relationship which posits that consumer behaviour is primarily influenced by three dimensions: firstly, behavioural intentions, which are contingent upon the individual's attitude towards a specific action; as well as social norms and ultimately perceived behavioural control. Individual attitudes towards green products may act as a significant mediator in the relationship between intentions to purchase green products and actual green purchasing behaviour. Given the current body of research on this topic is also notably sparse. Rashid (2009) showed that consumers with robust pro-environmental attitudes exhibit greater orientation between their intentions and actual purchasing behaviour. In other words, a favourable attitude increases the likelihood of translating intentions into behaviour. A study by Sreen et al. (2018) identified a significant relationship between consumer attitudes towards green products and subjective norms. The study also proved the relationship between consumer attitudes towards green products and perceived behavioural control, which further increases green purchasing intentions and behaviour. Meanwhile, Paul et al. (2016) found that attitudes toward green products play an important role in translating purchase intentions into behaviour, with robust pro-environmental attitudes mitigating barriers such as price sensitivity or product availability. Therefore, this study proposes the following hypothesis:

*H6: Attitude towards Green Product significantly mediates the relationship between Green Product Purchase Intention and Green Purchase Behaviour.*

#### ***Green product purchase intention as a mediator for environmental concern and attitude towards green product***

The relationship between environmental concerns and consumer perceptions of green product purchases has been extensively studied. The analysis of purchase intention as a mediating factor in this relationship is comparatively novel. Limited research has examined the mediating effect of green product purchase intention on the relationship between environmental concerns and attitudes towards green products. Due to the nature that it contradicts the theory of planned behaviour driven by attitude-intention rather than intention-driven attitude. According to Kim and Chung (2011) as well as Vermeir and Verbeke (2008), consumers' environmental concerns directly influence their attitudes towards green products, with green purchase intentions acting as an important mediator. Yadav and Pathak (2017) as well as Paul et al. (2016) elucidated this mediating relationship by demonstrating how consumers' environmental concerns translated into purchase intentions through their attitudes. This empirical advancement is motivated by substantial adverse effects resulting from environmental degradation

from flooding to forest fires within human habitats. Hence it evolves the explanation of reasoned action to a certain extent. Environmental concerns significantly affect consumers' intentions to engage in green purchasing and shape attitudes towards green products (Akehurst et al., 2012; Han et al., 2010). Research indicates that environmental concerns affect attitudes towards green products, with green purchase intentions serving as a mediating factor (Tan, 2011). This suggests that considerable consumer concern regarding environmental issues results in a strong intention to purchase green products, thereby reinforcing non-voluntary and subconscious attitudes towards these products (Joshi and Rahman, 2015). Therefore, this study proposes the following hypothesis:

*H7: Green Product Purchase Intention significantly mediates the relationship between Environmental Concern and Attitude Towards Green Product.*

***Green product purchase intention and attitude towards green product as serial mediator for environmental concern and green purchase behaviour***

This study seeks to investigate a serial mediation model wherein environmental concerns drive purchase intentions, which subsequently affect customer attitudes, ultimately impacting green purchasing behaviour. The connection is that, first, environmental concern may increase the likelihood that an individual intends to purchase green products. Individuals with substantial environmental concerns are more inclined to select products that correspond with their ecological values, resulting in heightened purchase intentions (Ye, 2022; Wijekoon and Sabri, 2021; Yogananda and Nair, 2019; Aman et al., 2012). Next, the intention to purchase a green product may shape an individual's attitude towards it, especially if it corresponds with their environmental beliefs. Consumers intending to buy a green product frequently cultivate favourable attitudes towards it, viewing the product as environmentally beneficial, high-quality, and reliable. Lastly, if the attitude is positive and supportive, it may lead to corresponding behaviour, however, this can also be affected by external variables. A favourable disposition towards green products markedly enhances the likelihood of consumers engaging in green purchasing behaviour (Amoako et al., 2020; Nosi et al., 2020; Cheung and To, 2019; Vermeir and Verbeke, 2006). The current literature endorses the direct and mediating relationship; however, the particular characteristics of this mediated relationship, particularly regarding serial mediation, necessitate further investigation. Mapping these pathways improves comprehension of the mechanisms affecting green consumer behaviour and aids in the formulation of initiatives to encourage green purchases. Therefore, this study proposes the following hypothesis:

*H8: Green Product Purchase Intention and Attitude Towards Green Product significantly serial mediate the relationship between Environmental Concern and Green Purchase Behaviour.*

***Green product purchase intention and attitude towards green product as serial mediator for monetary value and green purchase behaviour***

The monetary value serves as the initial basis in a series of mediations for this study, in which consumers' perceptions of the monetary value of a product significantly influence their purchase intentions (Qomariah and Prabawani, 2020; Zhang and Khachatryan, 2020; Sharaf and Isa, 2017; D'Souza et al., 2007). When consumers

regard a product as good value for money, meaning that it provides good quality or utility commensurate with its price, they are more likely to form an intention to purchase it. This is particularly applicable to green products, with loaded prices due to sustainable materials and green manufacturing practices. The subsequent chain in this serial median is similar to Section 2.2.8. Therefore, this study proposes the following hypothesis:

*H9: Green Product Purchase Intention and Attitude towards Green Product significantly serial mediate the relationship between Monetary Value and Green Purchase Behaviour.*

## **Materials and Methods**

The research utilised quantitative methods grounded in observable social phenomena, enabling the formulation of generalisations ideas. This research intends to construct a structural model and utilise statistical techniques to assess the hypotheses. It requires research that enables others to examine the link between the variables and replicate the results (Hair et al., 2021). Consequently, non-experimental research facilitates the exploration of deeper interactions within structural equation modelling pertinent to this topic. Primary data is ideal for conducting a cross-sectional analysis of the event at a specific moment in time. The survey collected data from higher education communities, primarily students aged 18 and older, due to their openness to new ideas and environmental values, as well as their exemplary civic behaviour in society. The study ensures equal representation of male and female participants through a quantitative methodology utilising a closed-ended questionnaire with a rating scale from 1, denoting strong disagreement, to 5, indicating strong agreement. The study employs nonprobability sampling via random selection, choosing respondents based on certain characteristics pertinent to adolescents in higher education. The research encompassed 391 participants in total. Given the complex nature of the conceptual framework, which encompasses numerous dependent and independent variables, along with intricate relationships and latent variables, partial least squares structural equation modelling (PLS-SEM) was utilised for its flexible sample size requirements, in contrast to covariance-based structural equation modelling (CB-SEM). This study prioritises prediction over model fit and assumes non-normality of the scattered data. The model is in the preliminary stage of theoretical development, concentrating on investigating relationships among variables instead of re-evaluating established ideas.

## **Results and Discussion**

### ***Measurement model-Construct validity***

Demographic information is depicted in *Table 1*. Meanwhile, the measurement model aims to verify the validity and reliability of constructs by analysing the links between latent variables and their indicators. Further, the structural model focuses on analysing the relationships between hypotheses concerning latent variables. The transition from measurement to structural model evaluation is crucial for enhancing the model's quality before proceeding to the subsequent assessment of the structural model (Ianole-Calin et al., 2021). Convergent validity evaluates the average variance extracted

(AVE) for all indicators linked to each construct (concept). The lowest acceptable value for AVE is 0.50 or more (Hair et al., 2021). Subsequently, various assessments will be conducted to assess the measurement model, notably focusing on three main aspects related to HTMT, composite reliability, and convergent validity, with acceptable results. The benchmark was met with the following criteria: (1) Discriminant Validity ( $HTMT < 0.9$ ) (Table 2), (2) Composite Reliability ( $CR > 0.7$ ), and (3) Convergent Validity ( $AVE > 0.5$ ) with factor loading  $> 0.7$  (Table 3).

**Table 1. Demographic information.**

Category	Frequency (N)	Percentage (%)
<b>Gender</b>		
Male	209	53.5%
Female	175	44.8%
Others	7	1.8%
<b>Age</b>		
18-21	126	32.2%
22-25	222	56.8%
26-30	26	6.6%
31-35	10	2.6%
Others	7	1.8%
<b>Current level of study</b>		
PhD	5	1.3%
Master's Degree	39	10.0%
Bachelor's Degree	270	69.1%
Diploma	67	17.1%
Foundation	3	0.8%
Others	7	1.8%
<b>Funding sources for the study</b>		
Parents Contribution	97	24.8%
Scholarship & Grants	38	9.7%
Self-Funding	29	7.4%
Students Loan	220	56.3%
Others	7	1.8%

**Table 2. Discriminant validity (HTMT).**

Variable	Attitude towards green product	Environmental concern	Green product purchase intention	Green purchase behaviour	Monetary value
Attitude Towards Green Product					
Environmental Concern	0.825				
Green Product Purchase Intention	0.802	0.876			
Green Purchase Behaviour	0.769	0.701	0.805		
Monetary Value	0.631	0.621	0.681	0.718	

**Table 3. Construct validity and reliability.**

Variable	Item	Factor Loading (FL)	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Average Variance Extracted (AVE)
ATGP	ATGP1	0.741	0.792	0.798	0.865	0.617
	ATGP3	0.802				
	ATGP4	0.757				
	ATGP5	0.839				
	EC	0.808				
EC	EC1	0.808	0.818	0.819	0.880	0.646

	EC2	0.790				
	EC3	0.813				
	EC5	0.805				
GPPI	GPPI1	0.755	0.842	0.844	0.884	0.559
	GPPI2	0.702				
	GPPI3	0.784				
	GPPI5	0.768				
	GPPI6	0.742				
	GPPI7	0.732				
	MV	MV1	0.831	0.771	0.773	0.867
MV2		0.830				
MV3		0.823				
GPB	PB3	0.825	0.853	0.859	0.895	0.630
	PB4	0.789				
	PB5	0.795				
	PB7	0.825				
	PB8	0.732				

Note: ATGP=Attitude Towards Green Product; EC=Environmental Concern; GPPI=Green Product Purchase Intention; MV=Money Value; GPB=Green Purchase Behaviour.

### Structure model

The notion of Explanatory Power ( $R^2$ ) in investigations utilising multiple regression pertains to the overall variance that can be attributed to the independent variables (Table 4). The independent variable spans from 0, which signifies no association, to 1, representing a total capacity to account for the variation in the dependent variable Y. A greater value signifies enhanced explanatory power. The value is categorised as good at 0.75 or higher, moderate at 0.50, and poor at 0.25 and below (Hair et al., 2021). Meantime, effect size ( $F^2$ ) determines the effect of eliminating a predictor construct on the  $R^2$  value of the dependent construct (Hair et al., 2021) (Table 5). Hence, an increase in  $R^2$  value due to the removal of the predictor variable is ideal and vice versa. Meantime, the effect size ( $F^2$ ) ranges from a small change of 0.02 to a medium change of 0.15 and a high change of 0.35 and above. Moreover, the effect size measures the intensity of relationships between independent and dependent variables (Creswell and Creswell, 2018). Collinearity is generally assessed as a potential redundancy among predictors in models with many independent variables. This is referred to as vertical or "traditional" collinearity in this context. The VIF score is an essential measure, with a value of 5 or lower indicating no collinearity issues (Kock and Lynn, 2012) (Table 6).

Table 4. R-square.

Variable	R-square	R-square adjusted
Attitude Towards Green Product	0.518	0.515
Green Product Purchase Intention	0.583	0.581
Green Purchase Behaviour	0.526	0.522

Table 5. F-square.

Variable	ATGP	EC	GPPI	GPB	MV
ATGP				0.129	
EC	0.123		0.672	0.049	
GPPI	0.083				
GPB					
MV	0.030		0.108	0.143	

Note: ATGP=Attitude Towards Green Product; EC=Environmental Concern; GPPI=Green Product Purchase Intention; MV=Money Value; GPB=Green Purchase Behaviour.

**Table 6.** Variance Inflation Factor (VIF).

Variable	ATGP	EC	GPPI	GPB	MV
ATGP				1.917	
EC	2.228		1.332	1.919	
GPPI	2.400				
GPB					
MV	1.477		1.332	1.427	

Note: ATGP=Attitude Towards Green Product; EC=Environmental Concern; GPPI=Green Product Purchase Intention; MV=Money Value; GPB=Green Purchase Behaviour.

**Model fit**

Standardised root means square residuals (SRMSR) vary from 0 to 1. The calculation involves dividing the fitted residuals by the standard error of the residuals. A lower score indicates a superior model fit (Table 7). A threshold value lower than 0.08 is deemed appropriate (Dash and Paul, 2021; Cho et al., 2020). In the meanwhile, we can assess the model by comparing its chi-square value to that of the null model or independence model, adopting a threshold value of the Normed Fit Index (NFI) range from 0 to 1 with a threshold greater than 0.90 deemed appropriate (Dash and Paul, 2021). In this saturated model, the SRMR result fulfils the threshold value lower than 0.08 with the actual figure 0.068.

**Table 7.** Model fit.

Benchmark	Saturated model	Estimated model
SRMR	0.068	0.073
d_ ULS	1.156	1.340
d_ G	0.438	0.460
Chi-square	988.363	1017.540
NFI	0.782	0.775

**Direct relationship**

From the model, Hypotheses 1 to 4 involve all direct relationships of variables with all significance at lower than 0.05 for all P-Value (Table 8). It is consistent with other studies, except that the exploratory investigation clarifies the relationship between intention to attitude under H3, which is supported by empirical results and limited studies (Wei et al., 2022a; Farjam et al., 2019). Where are the rest of the direct relationships H1 involved the relationship between Environmental Concern to Green Product Purchase Intention supported by Ye (2022), Wijekoon and Sabri (2021), Yogananda and Nair (2019) as well as Aman et al. (2012). Meanwhile, the relationship of H2 between Monetary Value on Green Product Purchase Intention is supported by Zhang and Khachatryan (2020) as well as Sharaf and Isa (2017). Ultimately, H4 depicted the Attitude Towards Green Product on Green Purchase Behaviour reaffirmed by Cheung and To (2019), Rahimah et al. (2018) as well as Kim and Choi (2005).

**Table 8.** Direct relationship.

No.	Relationship	Path Coefficient	Mean	SD	T-Value	P-Value	Confidence Interval		Decision
							LL	UL	
							2.5%	97.5%	
H1	Direct relationship EC -> GPPI	0.611	0.612	0.044	14.005	0.000	0.523	0.693	Accepted

H2	MV-> GPPI	0.245	0.246	0.050	4.903	0.000	0.148	0.342	Accepted
H3	GPPI -> ATGP	0.310	0.301	0.112	2.773	0.006	0.067	0.505	Accepted
H4	ATGP -> GPB	0.342	0.343	0.078	4.386	0.000	0.185	0.490	Accepted

Note: ATGP=Attitude Towards Green Product; EC=Environmental Concern; GPPI=Green Product Purchase Intention; MV=Money Value; GPB=Green Purchase Behaviour.

### Mediation

In the PLS path model, mediator variables capture a piece of the causation between independent and dependent variables (constructs) through indirect impact. The relationship between the exogenous (independent) latent construct and the endogenous (dependent) latent construct is mediated by a mediator (Leguina, 2015). By referring to the result in Table 9, there is an indirect effect in H5 ( $\beta=0.076$ ,  $t=2.499$ ,  $p=0.013$ ) where the T-value is greater than 1.96 at 0.05 significance level. Furthermore, the zero does not strap in between the LL (0.016) and the UL (0.138) with the 95% confidence interval which reveals that the mediating effect is significant (Hair et al., 2021). Empirically, it is concluded that Green Product Purchase Intention significantly mediates the relationship between Monetary Value and Attitude towards Green Products. In contradiction with mainstream research, it indicates a reverse relationship where attitudes influence intention (Wei et al., 2022b; Farjam et al., 2019). For H6 ( $\beta=0.106$ ,  $t=2.032$ ,  $p=0.042$ ) where the T-value is greater than 1.96 at 0.05 significance level. Statistically, it is concluded that Attitude Towards Green Product significantly mediates the relationship between Green Product Purchase Intention and Green Purchase Behaviour. While H7 ( $\beta=0.189$ ,  $t=2.812$ ,  $p=0.005$ ) where the T-value is greater than 1.96 at 0.05 significance level. Empirically, it is concluded that Green Product Purchase Intention significantly mediates the relationship between Environmental Concern and Attitude Towards Green Product. It remains a contradicting and breakthrough result as compared with the mainstream TPB (Sreen et al., 2018; Paul et al., 2016).

**Table 9. Mediating relationship.**

No.	Relationship	Path Coefficient	Mean	SD	T-Value	P-Value	Confidence Interval		Decision
							LL 2.5%	UL 97.5%	
Mediating relationship									
H5	MV -> GPPI -> ATGP (Partial Mediation)	0.076	0.073	0.030	2.499	0.013	0.016	0.138	Accepted
H6	GPPI -> ATGP -> GPB (Partial Mediation)	0.106	0.107	0.052	2.032	0.042	0.015	0.220	Accepted
H7	EC -> GPPI -> ATGP (Partial Mediation)	0.189	0.183	0.067	2.812	0.005	0.042	0.306	Accepted

Note: ATGP=Attitude Towards Green Product; EC=Environmental Concern; GPPI=Green Product Purchase Intention; MV=Money Value; GPB=Green Purchase Behaviour.

### Serial mediation

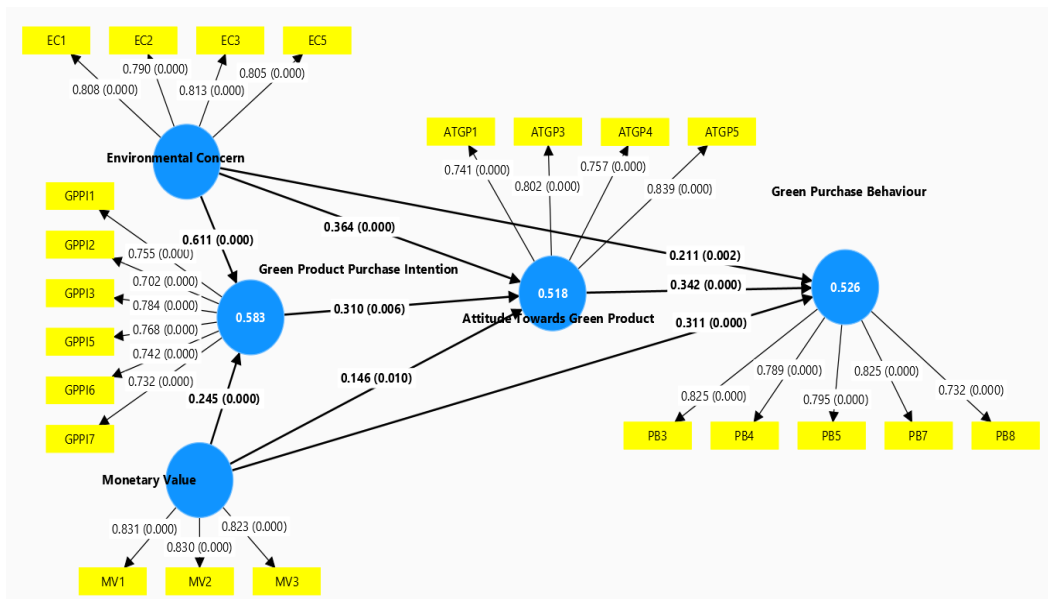
By referring to the result in Table 10, there is an indirect effect in H8 ( $\beta=0.065$ ,  $t=2.037$ ,  $p=0.042$ ) where the T-value is greater than 1.96 at 0.05 significance level (Hair et al., 2021). In addition, the zero also does not strap in between the LL (0.009) and the UL (0.133) of the 95% confidence interval. Statistically, it is concluded that Green Product Purchase Intention and Attitude Towards Green Product have a significant indirect effect on Environmental Concern and Green Purchase Behaviour. Further, there

is an indirect effect in H9 ( $\beta=0.026$ ,  $t=1.905$ ,  $p=0.057$ ) where the T-value is near 1.96 at 0.05 significance level while zero does not straps in between the LL (0.004) and the UL (0.058) (Hair et al., 2021). Statistically, it is concluded that Green Product Purchase Intention and Attitude Towards Green Product have a significant indirect effect on Monetary Value and Green Purchase Behaviour. *Figure 2* shows the PLS-SME results for all variables included in the analysis.

**Table 10.** Serial mediating relationship.

No.	Relationship	Path Coefficient	Mean	SD	T-Value	P-Value	Confidence Interval		Decision
							LL	UL	
							2.5%	97.5%	
H8	Serial Mediating relationship EC -> GPPI -> ATGP-> GPB (Partial Serial Mediation)	0.065	0.065	0.032	2.037	0.042	0.009	0.133	Accepted
H9	MV -> GPPI -> ATGP -> GPB (Partial Serial Mediation)	0.026	0.026	0.014	1.905	0.057	0.004	0.058	Accepted

*Note:* ATGP=Attitude Towards Green Product; EC=Environmental Concern; GPPI=Green Product Purchase Intention; MV=Money Value; GPB=Green Purchase Behaviour.



**Figure 2.** PLS-SEM output.

This study investigates the direct, mediating, and serial mediating relationships among the variables: Monetary Value, Environmental Concern, Attitude Towards Green Products, Green Product Purchase Intention, and Green Product Purchase Behaviour. The result indicated that the consumer has made considerable progress in minimising their carbon footprint through robust environmentally conscious purchasing behaviour. The direct link elucidates how Environmental Concern influences Green Product Purchase Intention, as corroborated by prior studies (Ye, 2022; Wijekoon and Sabri, 2021; Yogananda and Nair, 2019; Aman et al., 2012). Consequently, it emphasised the significance of value purchasing motivated by environmental sustainability. While H2

elucidates the beneficial influence of Monetary Value on the Intention to Purchase Green Products (Zhang and Khachatryan, 2020; Sharaf and Isa 2017). Thus, it emphasised the positive perceived Monetary Value associated with green product quality, durability, and reliability, in alignment with the marketing mix of pricing and product. Subsequently, H3 refined the relationship between Green Product Purchase Intention and Attitude Towards Green Product (Wei et al., 2022a; Farjam et al., 2019). The purchase of green products requires a strong value proposition that demonstrates tangible benefits for environmental sustainability, as well as increased efforts to enhance awareness of choosing new and less economically viable sustainable alternatives. The H4 confirmed a positive direct relationship between Attitude Towards Green Products and Green Purchase Behaviour, despite most studies focussing on indirect relationships (Cheung and To, 2019; Rahimah et al., 2018; Kim and Choi, 2005). The concept of planned behaviour was enhanced by integrating human values and goals as determinants of purchasing activity, while budget constraints served as a motivating factor.

Further, the partial mediating relationship involves H5 that exploratory revisit relationship of the mediating effect of Green Product Purchase Intention toward Monetary Value and Attitude Towards Green Product (Wei et al., 2022b; Farjam et al., 2019). Hence, the marketing mix of pricing remains an ultimate key factor in purchase decisions. While H6 refreshes the mediating role of Attitude Towards Green Product on Green Product Purchase Intention and Green Purchase Behaviour with a revisit on the intention-attitude relationship with contradicting agreement on the mainstream theory of planned behaviour (Sreen et al., 2018; Paul et al., 2016). It examines the potential of information-driven content marketing to serve as a channel for conveying green-value information to consumers, hence inducing cognitive dissonance. Meanwhile, H7 revisit the mediating role of Green Product Purchase Intention to Environmental Concern and Attitude Towards Green Product. Hence, the product's uniqueness and appeal remain a critical selling point within the marketing strategy of the product mixed with green products. Further refinement involved the exploration of two additional partial serial mediating effects within H8 and H9. Green Product Purchase Intention and Attitude Towards Green Products serve as serial partial mediators in the relationship between Environmental Concern and Green Purchase Behaviour in hypothesis H8, as well as between Monetary Value and Green Purchase Behaviour in hypothesis H9. Product and pricing are critical elements that necessitate proper alignment to improve environmental value and cost-effectiveness. This alignment is supported by a diverse range of unique products and price variations to accommodate a broader spectrum of customer segments in green purchasing.

The empirical results of H3, H5, H6, H7, H8, and H9 are significant; however, they are inconsistent with existing mainstream research. This study concludes that Green Product Purchase Intention influences Attitude Towards Green Products, which contradicts most theoretical studies. The inconsistencies conflict with the theory of TPB (Musa et al., 2024; Yeo et al., 2024). This variance may arise from consumers' altruistic impulses when buyers have an abrupt, unanticipated want to buy, motivated by an emotional appeal to green products and a craving for instant gratification to purchase driven by impulse moderated intention (D'Souza et al., 2024). Consumers with a strong intention to engage in green purchasing are partially motivated by negative externalities stemming from inadequate urban planning, which has resulted in frequent experiences of flooding and deforestation. This situation prompts impulse-driven purchases of eco-

friendly products through effective content marketing that aligns closely with consumer value (Bubphapant and Brandão, 2024). This observation, however, contradicts the TPB. This scenario is explained by Cognitive Dissonance Theory, which illustrates the phenomenon where individuals behave in ways that conflict with their attitudes (Festinger and Carlsmith, 1959). The environmentally conscious consumer committed to using a sustainable product, leading to changes in attitude and behaviour to align with the new environmentally friendly goal. This study enhances existing literature by providing a distinct analysis of the theoretical framework linking green marketing, impulse buying, green value, and content marketing. This study re-evaluates the sequence of consumer responses regarding the intention to purchase green products, influenced by the contingent green appeal that affects long-term attitudes. Content marketing strategies should integrate a heightened focus on environmental awareness in relation to eco-friendly products, as this approach improves customer understanding of ecological value and encourages both intentional and impulsive purchasing behaviour, as outlined in the theory of cognitive dissonance.

## **Conclusion**

In the field of sustainable product consumption, there is a need for an integrated model of consumer purchasing that reflects sustainability while ensuring merchant profitability and alignment with consumer-perceived value. This study represents a significant advancement in understanding consumer behaviour, demonstrating that lasting purchase attitudes can be strengthened by contingent consumption intentions linked to environmental sustainability among environmentally conscious individuals. Future studies should focus on enhancing the effectiveness of content marketing by refining the value creation associated with green purchasing aiming for environmental sustainability. This combination of intention-driven attitude formation via content marketing facilitates a more thorough comprehension of the factors influencing customer participation in green purchasing behaviour. Marketers should tailor their communications to meet customer needs and interests, thereby enhancing customer trust through green endorsements in product labelling (Dlamini and Mahowa, 2024).

## **Acknowledgement**

This study was conducted as part of the Final Year Project (FYP) by students from Universiti Tunku Abdul Rahman (UTAR), Perak, Malaysia. The authors wish to express their gratitude to UTAR for the support provided throughout this study.

## **Conflict of interest**

The authors confirm that there is no conflict of interest involved with any party in this study.

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