

The Roles of Attitudes, Knowledge and Perceived Consumer Effectiveness on Thai Consumers' Green Purchase

Piyanoot Kamalanon^{1, 2*}

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Abstract

The current study employs the Structural Equation Modeling (SEM) technique to investigate the antecedents of the intention to purchase recycled products. Data collection is conducted via an online self-administered questionnaire survey with total respondents of 551. The empirical results reveal that the attitudes toward green products and perceived consumer effectiveness (PCE) positively impacts the intention to purchase recycled products. Moreover, green purchase intention is the crucial antecedent of actual green purchase behavior. Besides, PCE significantly moderates the relationship between the attitudes toward green products and the purchase intention. However, knowledge of environmental damage indirectly influences green purchase intention via the mediating role of the attitudes toward green product. Our findings provide guidelines for green marketers on a strategic marketing plan to encourage more purchase of recycled products.

Keywords : Green Purchase Intention, Environmental Attitudes, Perceived Consumer Effectiveness (PCE), Green Corporate Image

Introduction

The drastic ecological crisis has been caused primarily by overpopulation and overconsumption (Rausch & Kopplin, 2021). The limitless demands of consumers have increased consumption and, as a result, waste production (Arias & Trujillo, 2020). For instance, overuse of plastic is one of the world's most rapidly expanding environmental crises. Particularly, Thailand generated almost 2 million tons of municipal plastic waste (MPW) in 2018, while only 33 percent of them were processed to recycle and generation of heat and power (Kamsook et al., 2023). In contrast to overconsumption, green consumerism supports green consumption, which relates to a person's moral convictions toward making decisions that are socially responsible (Jung et al., 2021). Choosing ecologically friendly products or services is one approach to promote green consumerism. We refer to the items manufactured from used materials in this study as recycled products. Nevertheless, despite the growing popularity of green consumerism,

¹ Doctoral Student, Business Administration Program, Business School, Central South University, Hunan, China

² Lecturer, Department of Management and Entrepreneurship, Faculty of Business Administration, Chiang Mai University

* Corresponding author: Email address: kamalanon.p@gmail.com



customers still do not commonly accept recycled products. For example, because recycled products contain used components, some consumers view them as inferior (De Silva et al., 2021). Although it is undeniable that encouraging green consumerism has a positive influence on the environment and the company's reputation, the relationship between consumers' environmental consciousness and their decision to buy recycled products is still unclear (Testa et al., 2021). In order to investigate the hidden consumer perceptions and purchase intentions of recycled items, green marketing is required. Establishing an appropriate green consumer category as well as providing green benefits and communicating these benefits to customers are all necessary for a business to promote green products (Piligrimiene et al., 2020; Rausch & Kopplin, 2021). This study uses Thailand context to investigate the influence of green attitudes and environmental knowledge in recycled product purchase encouragement in a developing country.

Numerous models of attitude, intention, and behavior have been suggested in previous literature (Hwang & Lyu, 2020; Nekmahmud & Fekete-Farkas, 2020). However, very few (Park & Lin, 2020; Ruangkanjanases et al., 2020) have examined the attitude-intention-behavior model in the context of recycled products. There have been the contradictions regarding the relationship between green purchase intention and its relevant antecedents such as attitudes. Namely, environmental attitudes have been viewed as a predictor of pro-environmental behavior, but some studies have found the negative relationships. Moreover, environmental knowledge has been perceived as a stimulator of green purchase intention, but many studies have revealed the statistically insignificant relationships. Therefore, it is essential to further investigate the relationship between environmental knowledge and green purchase intention in the context of recycled products. This research employs the Theory of Planned Behavior (TPB) to examine recycled product purchase behavior in Thailand. Notably, we focus on both direct and moderating effects of perceived consumer effectiveness. Furthermore, we demonstrate the roles of environmental knowledge as the driver of recycled product purchases. The result would provide green marketers the guideline on how to encourage recycled product purchase intention and actual purchase behavior.

Objective

1. To investigate whether green attitudes, perceived consumer effectiveness and perceived corporate green image act as the antecedents of recycled product purchase intention.
2. To examine whether knowledge on environmental damage directly or indirectly influences the recycled product purchase intention.
3. To prove whether perceived consumer effectiveness and sustainability awareness positively moderate green purchase intention.

Literature review and Hypothesis Development

Theory of Planned Behavior (TPB)

Theory of planned behavior (TPB) states that the intention to engage in behavior is impacted by attitudes, subjective norms, and perceived behavioral control; meanwhile, behavior is influenced by the intention and perceived behavioral control (Ajzen, 1985). TPB focuses on the crucial roles of personality, character and psychological factors when making decision to conduct a behavior (Juschten et al., 2019). TPB emphasizes the importance of intention as the most powerful predictor of actual behavior, depending on the level of volition and control that an individual has over a certain behavior. Attitudes depend on the evaluation on the characteristics of the actions, generally whether it is viewed as positive or negative. Subjective norms refer to social influence regarding the key referent person or the group based on normative ideas about the focal action. Perceived behavioral control shows the availability of resources one possesses and the potential opportunities of the action to be performed (Ajzen, 1991).

Green Purchase Behavior (GPB) and Green Purchase Intention (GPI)

One way to support the environment is by making green purchases (Nekmahmud & Fekete-Farkas, 2020; Piligrimiene et al., 2020), which refers to any behavior that combines consuming products with notable environmental benefits with exhibiting environmentally conscious views (Munerah et al., 2021). In this study, buying a product made wholly or in part of recycled materials is referred to as green purchase behavior.

Intention is the state of being willing or prepared to participate in the conduct that is being discussed (Ajzen, 1985). Many people consider the relationship between attitude and behavior is mediated by intention (De Silva et al., 2021; Fontes et al., 2021; Rausch & Kopplin, 2021), in other words, intention is a more tangible predictor of actual behaviors than attitude. Green product purchase intention serves as an indicator for how eager or prepared customers are to make environmentally friendly decisions (Chen et al., 2021). According to certain research, green purchase behavior is predicted by green purchase intention (Witek & Kuzniar, 2021); as a result, producers and marketers should understand what their target consumers intend to buy. Thus, H1 is hypothesized as follows.

Hypothesis 1 (H1). Green purchase intention (GPI) is positively associated with green purchase behavior (GPB)

Attitudes Toward Green Product (AGP)

An individual's attitudes toward green products indicate how much they value the performance of buying a green product (Mehta & Chahal, 2021). Particularly, green products in the current study is defined as products containing used materials. Kamalanon et al. (2022) disclose that consumers are more inclined to use and purchase green products when they have a positive attitude toward green purchase. Numerous

studies have demonstrated that opinions about green products significantly influence consumers' intentions to buy environmentally friendly goods. For example, Ahmed et al. (2021) investigate the intention of Chinese consumers to purchase eco-friendly goods and discovered a positive relationship between attitude and intention. Previous literature (Park & Lin, 2020; Riskos et al., 2021; Sreen et al., 2020) reveal similar empirical results, for instance, some studies show that attitudes directly influence the intention to purchase recycled products in the positive direction (Chatterjee et al., 2022). Therefore, H2 is hypothesized as follows.

Hypothesis 2 (H2). Attitudes toward the green product (AGP) is positively associated with green purchase intention (GPI)

Attitudes Toward Environmental Protection (AEP)

In principle, forming of attitude involves assessing how a person feels about carrying out an action (Ruangkanjanases et al., 2020). According to Ajzen (1991), attitudes toward the behavior refer to the degree to which an individual has a positive or negative opinion of the action in issue. More precisely, views toward environmental protection reflect the way in which people perceive about promoting and protecting the environment (Park & Lin, 2020). Previous literature (Cichocki et al., 2024) have demonstrated that people are more inclined to purchase green items if they have more positive sentiments on environmental protection. Meanwhile, Bittar (2018) reveals that there is no discernible relationship between attitudes toward environmental protection and green purchase intention. To demonstrate the direct influence of attitudes toward environmental protection on the intention to buy recycled products, H3 is hypothesized as follows.

Hypothesis 3 (H3). Attitudes toward environmental protection (AEP) is positively associated with green purchase intention (GPI)

Perceived Consumer Effectiveness (PCE)

According to TPB, actions are motivated not by intention, but also by perceived behavioral control (Ajzen, 1991; Sharma, 2022) such as perceived consumer effectiveness (PCE). Previous studies have investigated the role of PCE as an antecedent of green purchase intention and behavior. Kumar et al. (2022) examine the drivers of green purchase behavior and reveal that PCE influences green purchase intention in the positive direction. Particularly, PCE occurs when a consumer believes that their purchase of environmentally friendly goods significantly contributes to making a difference (Ahmed et al., 2021). Kamalanon et al. (2022) disclose that PCE is a better predictor of green purchase behavior than the attitude alone because its interconnectedness with green purchase intention is stronger than attitudes. The current study proposes PCE as one of green purchase intention antecedents; hence, hypothesizing H4a as follows.

Hypothesis 4a (H4a). Perceived consumer effectiveness (PCE) is positively associated with green purchase intention (GPI)

In addition to the direct impact, PCE appears to have the moderating effects on the relationship between sustainable practice and green attitudes (Higuera-Castillo et al., 2019). PCE is perceived as a positive moderator on the relationship between environmental attitudes and pro-environmental behaviors. Consumers who believe that they can actively contribute to environmental protection tend to have higher green behavioral intention. With higher PCE, ones would have better sustainability knowledge and have higher willingness to buy environmentally friendly goods (Liang et al., 2020). Therefore, this research examines the moderating impacts of PCE on green purchase intention by hypothesizing H4b and H4c as follows.

Hypothesis 4b (H4b). Perceived consumer effectiveness (PCE) positively moderates the relationship between attitudes toward the green product (AGP) and green purchase intention (GPI)

Hypothesis 4c (H4c). Perceived consumer effectiveness (PCE) positively moderates the relationship between attitudes toward environmental protection (AEP) and green purchase intention (GPI)

Knowledge of Environmental Damage (KED)

Environmental knowledge is the level of comprehension of the factors that impact the sustainability and healthiness of the ecosystem we live in (Bala et al., 2023). Customers who are very concerned about environmental issues are more likely to choose sustainable practices than those who are not (Hamzah & Tanwir, 2021). Asif et al. (2023) examine how attitudes toward environmental protection in respect to eco-friendly home appliance product markets in Pakistan are impacted by knowledge of environmental damage, and found the significant correlation between the two variables. Jaiswal and Kant (2018) indicate that environmental information has no significant impact on attitudes toward green products. Besides, Costa et al. (2021) affirm that green purchase intention is substantially and positively correlates with environmental knowledge. To confirm the relationship, this study hypothesizes H5 as follows.

Hypothesis 5a (H5a). Knowledge of environmental damage (KED) is positively associated with green purchase intention (GPI)

Hypothesis 5b (H5b). Knowledge of environmental damage (KED) is positively associated with attitudes toward the green product (AGP)

Hypothesis 5c (H5c). Knowledge of environmental damage (KED) is positively associated with attitudes toward environmental protection (AEP)

Perceived Green Corporate Image (PGI)

Green corporate image plays essential roles in expressing how a firm stands out from the competitors (Alam & Islam, 2021). Positive reputation generally results from good image and leads to positive impacts on consumer perception and consequently increase the likelihood of selecting a certain company's goods or services (Chen et al., 2020). Green corporate image tends to increase consumer's expectation and achieve

customer's green desires (Hwang & Lyu, 2020). Pro-environmental behaviors contribute to the establishment of the firm's competitive advantage. Specifically, previous empirical research confirms that a company with policies regarding environmental protection engagement acquires higher level customer loyalties than their competitors (Mehdikhani & Valmohammadi, 2021; Xu et al., 2021).

Behavioral intention is the predictor of consumers' purchase behavior, and good corporate positively stimulates consumers' purchase intention (Han et al., 2020). Yu et al. (2021) prove that positive green corporate image significantly encourages consumers' green purchasing decisions in the positive direction. Hence, H6 is hypothesized as below.

Hypothesis 6 (H6). Perceived green corporate image (PGI) is positively associated with green purchase intention (GPI)

Green Product Experience (GPE)

Experience in using a green product crucially influences the consumer's decision to continue using it (Tezer & Bodur, 2021). By trying the product, one initiates the green product perception according to experience evaluation. The more product experience, the better knowledge and the more information a customer can apply to assess the product features and identity. Consumers who have tried environmentally friendly goods tend to regard green products more positively than ones without green product experience (Costa et al., 2021). Therefore, the level of green product experience may significantly influence the possibility of green product adoption.

Sustainability Awareness (SA)

Information that promotes desired pro-environmental behaviors as well as their consequences can be the tools for enhancing green environmentally friendly actions. Particularly, if a consumer is not informed about the benefits of green products, the place where green products are available for sale and related environmental issues, this customer tends not to involve in green purchase (Liang et al., 2020). Information about ecological issues and green product, helps establish awareness on sustainability (Hamzah & Tanwir, 2021). Green purchase is considered one of the pro-environmental behaviors, and sustainability awareness influences one's intention to engage in green purchase.

The hypothesized model is illustrated in Figure 1.

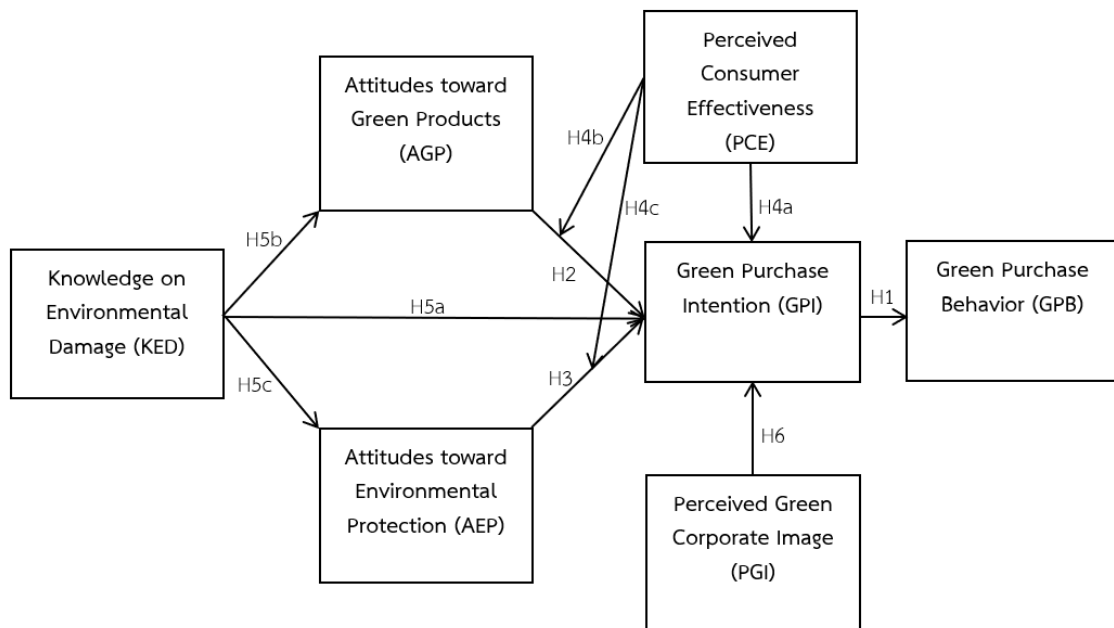


Figure 1 Hypothesized Model

Methodology

Organization of Scale Items and Pilot Test

We apply scales developed and validated in previous literature. There were seven constructs, including attitudes toward green products (AGP) (Chan, 2001; Jaiswal & Kant, 2018; McCarty & Shrum, 1994; Mostafa, 2006; Paul et al., 2016; Sreen et al., 2018; Taylor & Todd, 1995), attitudes toward environmental protection (AEP) (Ozkan, 2001; Saba & Messina, 2003; Sun et al., 2018), green purchase intention (GPI) (Chan, 2001; Chan & Lau, 2000; Jaiswal & Kant, 2018; Mostafa, 2006), green purchase behavior (GPB) (Jaiswal & Kant, 2018; Lee, 2008), perceived consumer effectiveness (PCE) (Jaiswal & Kant, 2018; Kim, 2011; Kim & Choi, 2005), perceived green corporate image (PGI) (Baker & Churchill, 1977; Jeong et al., 2014) and knowledge on environmental damage (KED) (Sidique et al., 2010; Sun et al., 2018). Generally, the five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree) is employed. All measurement items were initially in English and were translated into Thai language. Thai version items were checked and translated back to English by two language experts two times, before and after the pilot test. The back-translated Thai version adequately reflects the same meaning as the original English questionnaire (both before and after the pilot test). The pilot test was conducted with 40 samples of Bangkok citizens with at least a bachelor graduate degree.

Data Collection and Samples

The sample includes Bangkok citizens aged 16 or above. The data were collected via self-administered questionnaires distributed online during August – September 2018, using snowball sampling techniques. Snowball is a convenient sampling method commonly used because it enables the survey to reach target respondents easily. The

snowball sampling starts by inviting certain groups of people to participate usually by email or other types of communication such as social media. Then, each participant is asked to forward the invitation to others who match the criteria of target respondents (Heckathorn, 2011). 564 respondents completed the online survey. After removing 13 responses with missing data, there were 551 usable samples. There are 21 measurement items.

415 (75.3%) of the samples are female. Most of them are 21-25 years old ($n=243$, 44.1%) while the total percentage of samples aged 26 or above equals to 42% ($n=232$). Samples who are currently college students equal to 248 (45%) and samples who are either permanently employed or owning their own business equals 236 (42.8%). Moreover, 37.7% ($n=208$) of the samples have heard about sustainability or sustainable management concepts, mostly from media and in class. Furthermore, half of the samples (50.5%, $n=278$) have bought recycled products before. Notably, 96.6% of the samples declare that they intend to tell others about recycled products.

Common Method Bias (CMB)

Common method bias (CMB) is tested using the Harman single-factor test. It is assumed that if the variance of the first factor is less than 50%, the common method bias is not problematic, based on the diagnostic procedure which is not a statistical control. The test illustrates that the first factor explains 45.83 % of the variance, implying that common method bias is not an issue (Podsakoff et al., 2003).

Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) is conducted to test the reliability and validity of the model via AMOS 22.0. The goodness-of-fit (GOF) indicators are validated. Threshold values for the model fit include: χ^2/df (chi-square to degree of freedom ratio) < 3 (Kline, 2015), Goodness of Fit Index (GFI) > 0.9 (Nameghi & Shadi, 2013), Adjusted Goodness of Fit Index (AGFI) > 0.8 (Hair Jr. et al., 1995), Incremental Fit Index (IFI) > 0.9 (Zhang & Kim, 2013), Normed Fit Index (NFI) > 0.9 and Root Mean Square Error of Approximation (RMSEA) < 0.08 (Hair Jr. et al., 1995). The proposed model provides an adequate fit ($\chi^2/df=2.775$, GFI=0.924, AGFI=0.896, IFI=0.960, NFI=0.938, RMSEA=0.057).

Table 1 shows that the factor loading of all measurement items is larger than 0.50, confirming the construct reliability (Hair et al., 1995). Cronbach's alpha coefficients of each construct are larger than 0.70 (Peterson, 1994), reaffirming the internal consistency. Values of AVE for all constructs are larger than 0.5 (Fornell & Larcker, 1981) and CR for all constructs are larger than 0.7 (Hair et al., 1995), identifying the convergent validity. Discriminant validity is tested by comparing the square root of AVE for each construct with correlations between constructs (Fornell & Larcker, 1981). As shown in Table 2, square root of AVE for each construct was larger than the correlation between the constructs, confirming the discriminant validity.

Table 1 Standardized Factor Loadings, CR, AVE, and Cronbach's Alpha

Items	Construct	Factor loadings	CR	AVE	α
AGP1	<--- AGP	0.734	0.764	0.520	0.764
AGP2		0.774			
AGP3		0.650			
GPI1	<--- GPI	0.734	0.798	0.568	0.799
GPI2		0.734			
GPI3		0.792			
PCE1	<--- PCE	0.739	0.776	0.537	0.776
PCE2		0.701			
PCE3		0.757			
PGI1	<--- PGI	0.723	0.824	0.610	0.821
PGI2		0.800			
PGI3		0.816			
GPB1	<--- GPB	0.773	0.757	0.511	0.754
GPB2		0.730			
GPB3		0.634			
KED1	<--- KED	0.885	0.938	0.836	0.938
KED2		0.955			
KED3		0.901			
AEP1	<--- AEP	0.693	0.763	0.518	0.763
AEP2		0.775			
AEP3		0.688			

Notes: CR: Composite reliability, AVE: Average variance extracted, α : Cronbach's alpha

Table 2 Discriminant Validity

	PCE	PGI	KED	AEP	AGP	GPI	GPB
PCE	0.733						
PGI	0.513**	0.781					
KED	0.164**	0.235**	0.914				
AEP	0.434**	0.461**	0.231	0.720			
AGP	0.558**	0.555**	0.178	0.499	0.721		
GPI	0.608**	0.467**	0.149	0.371	0.624	0.754	
GPB	0.601**	0.505**	0.114	0.429	0.648	0.639**	0.715

Notes: Diagonal values show the square root of AVE for each construct.

** . Correlation is significant at the 0.01 level (2-tailed).

Results

The Model Fit

We analyze the hypothesized model using SPSS 26.0 and AMOS 22.0 (maximum likelihood estimator). The model fit is examined with threshold values ($\chi^2/df < 3$; GF I > 0.9; AGFI > 0.8; IFI > 0.9; NFI > 0.9; RMSEA < 0.08). The results confirm that the proposed

structural model shows adequate fit to the data ($\chi^2/df = 2.541$; GFI = 0.996; AGFI = 0.963; IFI = 0.998; NFI = 0.997; RMSEA = 0.053).

Hypothesis testing via Structural Equation Modeling (SEM)

Structural Equation Modeling (SEM) is employed for hypothesis testing using AMOS 22.0. Figure 2 exhibits illustrates hypothesis testing results.

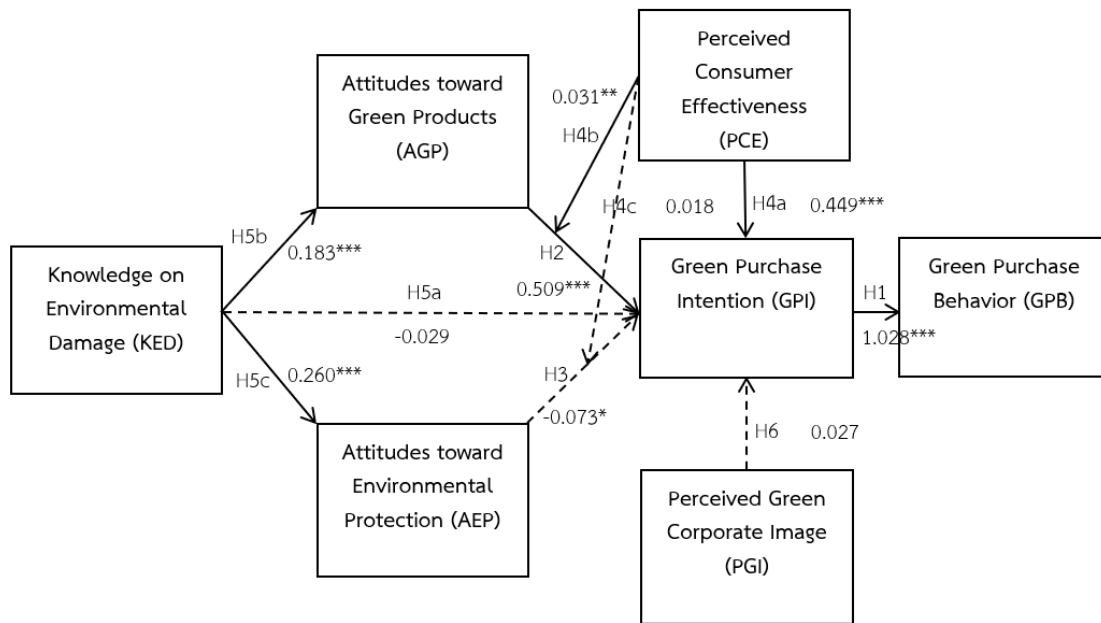


Figure 2 Results of the hypothesis testing of the proposed research model

Main Effects

As shown in Table 3, green purchase intention (GPI) has significant positive effects on green purchase behavior (GPB) ($\beta = 1.028$, $p < 0.001$); thus, supporting **H1**. Intention is a predictor of actual purchase behavior.

Regarding two types of attitudes, Attitudes toward green or recycled products (AGP) have significant positive influence on green purchase intention (GPI) ($\beta = 0.509$, $p < 0.001$), thus validating **H2**. However, the relationship between attitudes toward environmental protection (AEP) and green purchase intention (GPI) is significant but not supported as the direction of the relationship is found to be in the negative direction ($\beta = -0.073$, $p = 0.01$). Therefore, **H3** is not supported.

Perceived consumer effectiveness (PCE) has significant positive effects on green purchase intention (GPI) ($\beta = 0.449$, $p < 0.001$), supporting **H4a**. Meanwhile, perceived green corporate image (PGI) does not significantly predict the intention to purchase (GPI) ($\beta = 0.027$, $p = 0.357$); hence, **H6** is not supported.

Knowledge on environmental damage and pollution (KED) significantly influences both attitudes toward the green product (AGP) ($\beta = 0.183$, $p < 0.001$) and attitudes toward

environmental protection (AEP) ($\beta = 0.260$, $p < 0.001$) in a positive direction. However, the relationship between knowledge of environmental damage and pollution (KED) and green purchase intention (GPI) is not statistically significant ($\beta = -0.029$, $p = 0.07$). Therefore, the findings support **H5b** and **H5c** but fail to support **H5a**.

Moderating Effects

PCE is set as an antecedent of green purchase intention in our model. Moreover, to explore more thoroughly about the role of PCE in green consumption, we further test the moderating effect of PCE on the relationship between two types of attitudes: 1) attitudes toward green products 2) attitudes toward environmental protection and green purchase intention. The result in Table 4 proves that PCE exerts a significant positive moderating effect only on the relationship between 1) attitudes toward green products and purchase intention; thus, supporting **H4b** but failing to support **H4c**.

Table 3 Main Hypothesis Testing Results

	Path		Estimate	S.E.	C.R.	P-value	Result
H1	GPI	→ GPB	1.028***	0.035	28.976	<0.001	Supported
H2	AGP	→ GPI	0.509***	0.038	13.402	<0.001	Supported
H3	AEP	→ GPI	-0.073*	0.028	-2.563	0.010	Not supported
H4a	PCE	→ GPI	0.449***	0.039	11.657	<0.001	Supported
H5a	KED	→ GPI	-0.029	0.016	-1.810	0.070	Not supported
H5b	KED	→ AGP	0.183***	0.030	6.047	<0.001	Supported
H5c	KED	→ AEP	0.260***	0.032	8.034	<0.001	Supported
H6	PGI	→ GPI	0.027	0.030	0.921	0.357	Not supported

Notes: ***, * Significant at the .001 and .05 levels.

Table 4 Moderating Effect Testing Results

	Path		Estimate	S.E.	C.R.	P-value	Result
	PCE	→ GPI	0.445***	0.036	12.369	<0.001	
	AGP	→ GPI	0.463***	0.035	13.104	<0.001	
H4b	AGP*PCE	→ GPI	0.031*	0.015	2.160	0.031	Supported
	PCE	→ GPI	0.733***	0.036	20.317	<0.001	
	AEP	→ GPI	0.079***	0.039	2.026	0.043	
H4c	AEP*PCE	→ GPI	0.018	0.017	1.035	0.301	Not supported

Notes: ***, * Significant at the .001 and .05 levels.

In accordance with Dawson (2014), the interaction effect is plotted in Figure 3.

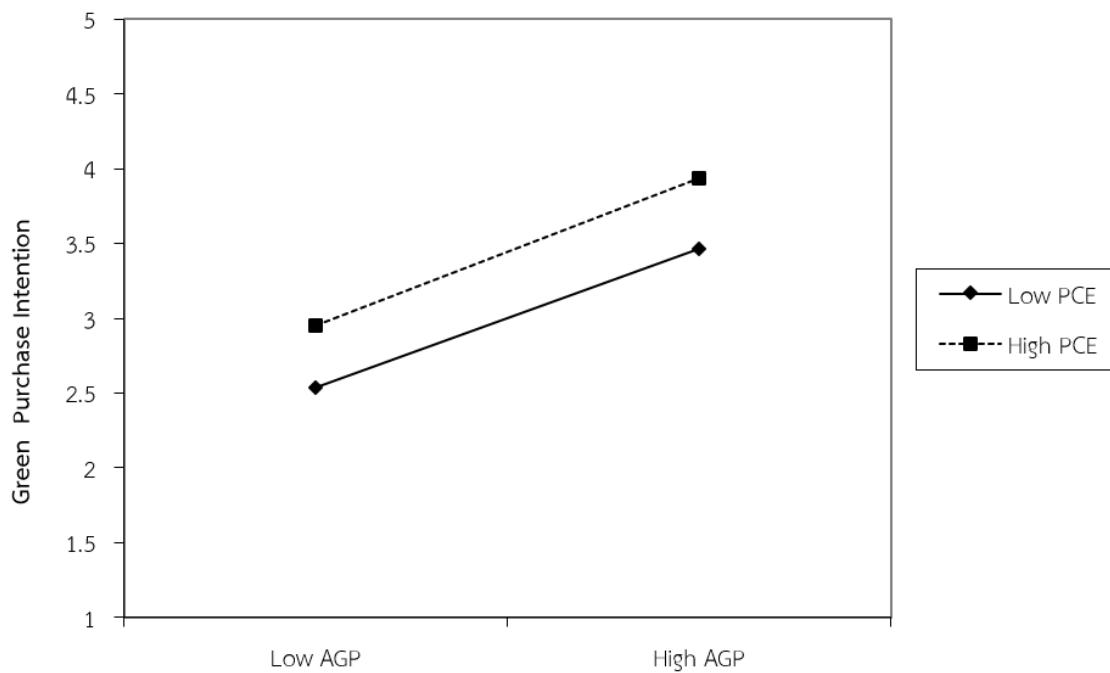


Figure 3 Interaction effect of PCE on the relationship between AGP and GPI

Multi-group analysis (MGA)

Beside PCE, the moderating effects of experience using recycled products and sustainability awareness are examined by the multi-group analysis, using AMOS 22.0. Regarding the moderating roles of green product experience (GPE), as shown in Table 5 and Table 6, there are statistical difference between respondents with and without green product purchase experience regarding the relationship with 1) AGP and GPI, and 2) PCE and GPI. However, only the moderating effects on the relationship between AGP and GPI is exerting in the positive direction (the coefficients of respondents with GPE is larger than those without GPE); hence, the experience using green products positively moderates the influence of positive attitudes toward green products on the purchase intention.

The plausible moderating effects of sustainability awareness is also tested via the multi-group analysis, separating respondents with and without having heard or having learned about sustainability concepts. Awareness on sustainability represents the consumers' consciousness resulted from information regarding sustainable management, green products and pro-environmental behaviors. Considering sustainability awareness as the consequence of marketing information, we hypothesize that better understanding on sustainability positively moderates green purchase intention.

According to Table 7 and Table 8, the results reveal that there are statistical differences between respondents with and without having heard about sustainability regarding the relationship with 1) KED and GPI, 2) AGP and GPI, and 3) PCE and GPI. Since

the main effect of KED on GPI is not statistically significant, we do not consider the moderating effect on this relationship. For the other two, only the moderating effects on the relationship between AGP and GPI is exerting in the positive direction (the coefficient of the respondents with sustainability awareness are larger than those without sustainability awareness); therefore, sustainability awareness positively moderates the influence of positive attitudes toward green products on the purchase intention.

Table 5 Results of Multi-group Analysis (MGA) Based on Green Product Experience

Path			With experience	P value	No experience	P value
KED	→	AGP	0.190	<0.001	0.152	<0.001
KED	→	AEP	0.273	<0.001	0.208	<0.001
KED	→	GPI	-0.023	0.287	-0.045	0.048
AGP	→	GPI	0.587	<0.001	0.418	<0.001
AEP	→	GPI	-0.082	0.044	-0.100	0.010
PGI	→	GPI	0.046	0.232	0.023	0.618
PCE	→	GPI	0.351	<0.001	0.566	<0.001
GPI	→	GPB	1.081	<0.001	0.984	<0.001

Table 6 Results of Multi-group Analysis (MGA) Chi-square Comparison Based on Green Product Experience

Model Path	DF	CMIN	P value	NFI	IFI	RFI	TLI
				Delta-1	Delta-2	rho-1	rho2
KED→GPI	1.000	0.497	0.481	0.000	0.000	-0.003	-0.003
KED→AGP	1.000	0.366	0.545	0.000	0.000	-0.003	-0.003
AGP→GPI	1.000	5.040	0.025	0.002	0.002	0.007	0.007
AEP→GPI	1.000	0.104	0.747	0.000	0.000	-0.003	-0.003
KED→AEP	1.000	1.000	0.317	0.000	0.000	-0.001	-0.002
GPI→GPB	1.000	1.732	0.188	0.001	0.001	0.000	0.000
PGI→GPI	1.000	0.139	0.709	0.000	0.000	-0.003	-0.003
PCE→GPI	1.000	7.740	0.005	0.003	0.003	0.013	0.013

Note: Assuming model Unconstrained to be correct

Table 7 Results of Multi-group Analysis (MGA) Based on Sustainability Awareness

Path			Have heard	P value	Have not heard	P value
KED	→	AGP	0.171	<0.001	0.169	<0.001
KED	→	AEP	0.213	<0.001	0.269	<0.001
KED	→	GPI	-0.065	0.008	-0.002	0.934
AGP	→	GPI	0.613	<0.001	0.428	<0.001
AEP	→	GPI	-0.081	0.08	-0.058	0.114
PGI	→	GPI	0.053	0.218	0.001	0.976
PCE	→	GPI	0.315	<0.001	0.535	<0.001
GPI	→	GPB	1.094	<0.001	1.025	<0.001

Table 8 Results of Multi-group Analysis (MGA) Chi-square Comparison Based on Sustainability Awareness

Model Path	DF	CMIN	P value	NFI	IFI	RFI	TLI
				Delta-1	Delta-2	rho-1	rho2
KED→GPI	1.000	3.887	0.049	0.001	0.001	0.004	0.004
KED→AGP	1.000	0.002	0.969	0.000	0.000	-0.004	-0.004
AGP→GPI	1.000	5.732	0.017	0.002	0.002	0.008	0.008
AEP→GPI	1.000	0.148	0.700	0.000	0.000	-0.004	-0.004
KED→AEP	1.000	0.787	0.375	0.000	0.000	-0.003	-0.003
GPI→GPB	1.000	0.871	0.351	0.000	0.000	-0.003	-0.003
PGI→GPI	1.000	0.766	0.381	0.000	0.000	-0.003	-0.003
PCE→GPI	1.000	7.825	0.005	0.003	0.003	0.012	0.013

Combining the significant results of main effects and moderating effects, Figure 4 presents the extended TPB model for the focal context, as confirmed by our empirical study.

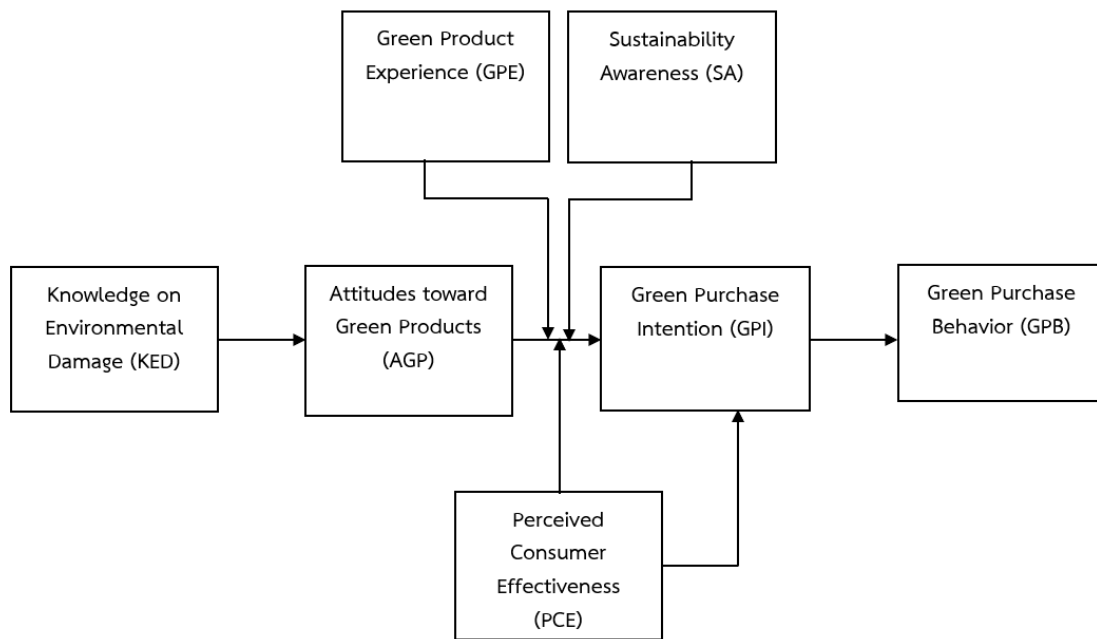


Figure 4 Extended TPB Model for the context of recycled product purchase

Conclusion and Discussion

This study contributes to the literature on the Theory of Planned Behavior (TPB) in green consumerism by emphasizing (1) the role of attitudes on recycled product purchase intention (2) to the role of PCE as an antecedent and as a moderator, and (3) to the role of environmental knowledge as a prerequisite to behavioral attitudes.

First, the results demonstrate empirical evidence for antecedent roles of behavioral attitudes on recycled product purchase intention. Our analysis reveals that only a specific type of relevant green attitudes would lead to purchase intention. More

specifically, only the attitudes toward green products significantly lead to recycled product purchase intention, aligning with Ahmed (2021). Therefore, to encourage more purchase of recycled products, we should directly promote the environmental friendliness of such products to the consumers. Meanwhile, the attitudes toward environmental protection do not necessarily influence people's intention to buy products made of used contents. It implies that an environmentally conscious individual may not choose the recycled product purchase as a mean to engage in environmental protection due to the fact that products made of used contents are sometimes perceived as inferior goods. Particularly, our empirical result shows the negative influence of environmental attitudes on the purchase intention as previously demonstrated in Trivedi et al. (2018). The reason might be that some certain groups of consumers do not focus on using recycled products, but put more efforts on reducing overall consumptions (i.e. buy less) to contribute to resource efficiency.

Second, the study provides empirical evidence for antecedent and moderating roles of PCE in stimulating recycled product purchase intention. We have proved that PCE appears to be one of the factors leading to the selection of green products, aligning with Kamalanon (2022). Moreover, PCE also acts as a positive moderator of the relationship between attitudes toward green products and purchase intention. However, PCE does not significantly moderate the relationship between attitudes toward environmental protection and purchase intention, implying that an individual with high PCE may feel engage in environmental protection but does not necessarily choose recycled product purchase as a means to contribute to pro-environmental behaviors.

Lastly, the current study confirms empirical evidence of the prerequisite role of environmental knowledge in the proposed model. We found that environmental knowledge has a significantly positive relationship with both the attitudes toward green products and attitudes toward environmental protection, aligning with Costa (2021) and Testa et al. (2019). It implies that the environmental knowledge itself does not directly impact the formation of an intention to purchase recycled products. However, it indirectly helps us create more purchase intentions via positive attitudes toward recycled products.

In conclusion, our empirical evidence manifests that, in the context of green consumerism in Thailand, environmental knowledge directly influences the attitudes toward green products which is one of the antecedents of green purchase intention. Meanwhile, another influencer of green purchase intention is perceived consumer effectiveness (PCE).

Suggestion

Recommendations

The results provide guidelines for green marketers regarding green marketing communication for recycled products in the context of Asian developing countries with the market structure similar to Thailand.

1) Promoting green attitudes and environmental knowledge can effectively encourage Thai consumers to adopt sustainable behaviors. Educational campaigns and public awareness initiatives should focus on highlighting the benefits of recycling and providing accessible options for purchasing recycled products.

2) To encourage sales of recycled products and green reputation of the companies, businesses can implement sales promotion strategy that stimulates the purchase intention. The company should promote the environmental and economic benefits of buying recycled products to consumers to urge more purchase of potential customers and create more repeaters. As encouraging consumers to be more environmentally conscious is inadequate to activate recycled product purchases, it is more powerful to advertise the recycled features of the products in the perception of environmental friendliness and resource efficiency towards long term sustainability.

3) Green marketers may also apply an indirect activator of recycled product purchase intention, which is environmental knowledge. A company may implement CSR programs by supporting environmental education campaigns in public and private institutions to strengthen consumers' environmental awareness.

4) Offering recycled products leads to the positive reputation of the company. However, our study shows that the perceived company green image does not show any significant influence on recycled product purchase intention. The reason behind such a weak relationship might be that company green image usually plays an essential role in creating positive reputations for service providers such as hotels or restaurants rather than the providers of the tangible goods.

5) Sustainability awareness positively moderates the influence of attitudes toward green products on the purchase intention. Hence, to market the recycled products, it is essential to establish green awareness among consumers and create more sales opportunities.

6) Green product experience positively enhances the influence of attitudes toward green product on the purchase intention. So green marketers should encourage more opportunities for consumers to try using the recycled products, so that they perceive the products more positively and be willing to purchase more.

Limitations and Future Research

The current study is undertaken only in Bangkok, Thailand, so it is not possible to generalize our findings to all consumers, especially in other countries. Also, some other unforeseen factors, such as cultural differences and geographical factors, may have

been overlooked. Further studies in the context of other regions or overseas should be conducted. Future research may involve emphasis on other related antecedents and possible moderators. Lastly, the use of different measurements for environmental knowledge may be applied to test the effect in a different context.

References

- Ahmed, N., Li, C., Khan, A., Qalati, S. A., Naz, S., & Rana, F. (2021). Purchase intention toward organic food among young consumers using theory of planned behavior: Role of environmental concerns and environmental awareness. *Journal of Environmental Planning and Management*, 64(5), 796–822. DOI: <https://doi.org/10.1080/09640568.2020.1785404>
- Ajzen, I. (1985) From intentions to action: A theory of planned behavior. In: Kuhl, J. and Beckmann, J. (Eds.), *Action-control: From cognition to behavior* (pp.11-39). Springer-Verlag.
- Ajzen, Icek. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. DOI: [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Alam, S. M. S., & Islam, K. M. Z. (2021). Examining the role of environmental corporate social responsibility in building green corporate image and green competitive advantage. *International Journal of Corporate Social Responsibility*, 6(1), 1-16. DOI: <https://doi.org/10.1186/s40991-021-00062-w>
- Arias, C., & Trujillo, C. A. (2020). Perceived consumer effectiveness as a trigger of behavioral spillover effects: A path towards recycling. *Sustainability*, 12(11), 1–17. DOI: <https://doi.org/10.3390/su12114348>
- Asif, M. H., Zhongfu, T., Irfan, M., & Işık, C. (2023). Do environmental knowledge and green trust matter for purchase intention of eco-friendly home appliances? an application of extended theory of planned behavior. *Environmental Science and Pollution Research*, 30(13), 37762–37774. DOI: <https://doi.org/10.1007/s11356-022-24899-1>
- Baker, M. J., & Churchill, G. A. (1977). The impact of physically attractive models on advertising evaluations. *Journal of Marketing Research*, 14(4), 538–555. DOI: <https://doi.org/10.2307/3151194>
- Bala, R., Singh, S., & Sharma, K. K. (2023). Relationship between environmental knowledge, environmental sensitivity, environmental attitude and environmental behavioural intention – a segmented mediation approach. *Management of Environmental Quality: An International Journal*, 34(1), 119–136. DOI: <https://doi.org/10.1108/MEQ-08-2021-0202>

- Bittar, A. (2018). Selling remanufactured products: Does consumer environmental consciousness matter? *Journal of Cleaner Production*, 181, 527–536. DOI: <https://doi.org/10.1016/j.jclepro.2018.01.255>
- Chan, R. Y. K. (2001). Determinants of Chinese consumers' green purchase behavior. *Psychology & Marketing*, 18(4), 389–413. DOI: <https://doi.org/10.1002/mar.1013>
- Chan, R. Y. K., & Lau, L. B. Y. (2000). Antecedents of green purchases: A survey in China. *Journal of Consumer Marketing*, 17(4), 338–357. DOI: <https://doi.org/10.1108/07363760010335358>
- Chatterjee, S., Sreen, N., Sadarangani, P. H., & Gogoi, B. J. (2022). Impact of green consumption value, and context-specific reasons on green purchase intentions: A behavioral reasoning theory perspective. *Journal of Global Marketing*, 35(4), 285–305. DOI: <https://doi.org/10.1080/08911762.2021.1996670>
- Chen, C. F., Eccarius, T., & Su, P. C. (2021). The role of environmental concern in forming intentions for switching to electric scooters. *Transportation Research Part A: Policy and Practice*, 154, 129–144. DOI: <https://doi.org/10.1016/j.tra.2021.10.010>
- Chen, Y. S., Huang, A. F., Wang, T. Y., & Chen, Y. R. (2020). Greenwash and green purchase behaviour: The mediation of green brand image and green brand loyalty. *Total Quality Management and Business Excellence*, 31(1–2), 194–209. DOI: <https://doi.org/10.1080/14783363.2018.1426450>
- Cichocki, P., Jabkowski, P., & Baranowski, M. (2024). The wealth of nations matters: A cross-national analysis of how political orientation and household income affect attitudes toward environmental protection. *International Journal of Comparative Sociology*, 65(3), 231–246. DOI: <https://doi.org/10.1177/00207152241229395>
- Costa, C. S. R., Costa, M. F. da, Maciel, R. G., Aguiar, E. C., & Wanderley, L. O. (2021). Consumer antecedents towards green product purchase intentions. *Journal of Cleaner Production*, 313, 127964. DOI: <https://doi.org/10.1016/j.jclepro.2021.127964>
- Dawson, J. F. (2014). Moderation in management research: What, why, when, and how. *Journal of Business and Psychology*, 29(1), 1–19. DOI: <https://doi.org/10.1007/s10869-013-9308-7>
- De Silva, M., Wang, P., & Kuah, A. T. H. (2021). Why wouldn't green appeal drive purchase intention? moderation effects of consumption values in the UK and China. *Journal of Business Research*, 122, 713–724. DOI: <https://doi.org/10.1016/j.jbusres.2020.01.016>
- Fontes, E., Moreira, A. C., & Carlos, V. (2021). The influence of ecological concern on green purchase behavior. *Management and Marketing*, 16(3), 246–267. DOI: <https://doi.org/10.2478/mmcks-2021-0015>

- Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. DOI: <https://doi.org/10.2307/3151312>
- Hair Jr., J. F., Anderson, R., Atham, R., & Black, W. (1995). *Multivariate data analysis* (7th ed.). Macmillan.
- Hamzah, M. I., & Tanwir, N. S. (2021). Do pro-environmental factors lead to purchase intention of hybrid vehicles? the moderating effects of environmental knowledge. *Journal of Cleaner Production*, 279, 123643. DOI: <https://doi.org/10.1016/j.jclepro.2020.123643>
- Han, H., Chua, B. L., Ariza-Montes, A., & Untaru, E. N. (2020). Effect of environmental corporate social responsibility on green attitude and norm activation process for sustainable consumption: Airline versus restaurant. *Corporate Social Responsibility and Environmental Management*, 27(4), 1851–1864. DOI: <https://doi.org/10.1002/csr.1931>
- Heckathorn, D. D. (2011). Comment: Snowball versus respondent-driven sampling. *Sociological Methodology*, 41(1), 355–366. DOI: <https://doi.org/10.1111/j.1467-9531.2011.01244.x>
- Higueras-Castillo, E., Molinillo, S., Coca-Stefaniak, J. A., & Liébana-Cabanillas, F. (2019). Perceived value and customer adoption of electric and hybrid vehicles. *Sustainability*, 11(18), 4956. DOI: <https://doi.org/10.3390/su11184956>
- Hwang, J., & Lyu, S. O. (2020). Relationships among green image, consumer attitudes, desire, and customer citizenship behavior in the airline industry. *International Journal of Sustainable Transportation*, 14(6), 437–447. DOI: <https://doi.org/10.1080/15568318.2019.1573280>
- Jaiswal, D., & Kant, R. (2018). Green Purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers. *Journal of Retailing and Consumer Services*, 41, 60–69. DOI: <https://doi.org/10.1016/j.jretconser.2017.11.008>
- Jeong, E. H., Jang, S. C., Day, J., & Ha, S. (2014). The impact of eco-friendly practices on green image and customer attitudes: An investigation in a café setting. *International Journal of Hospitality Management*, 41, 10–20. DOI: <https://doi.org/10.1016/j.ijhm.2014.03.002>
- Jung, H. J., Oh, K. W., & Kim, H. M. (2021). Country differences in determinants of behavioral intention towards sustainable apparel products. *Sustainability*, 13(2), 1–23. DOI: <https://doi.org/10.3390/su13020558>
- Juschten, M., Jiricka-Pürre, A., Unbehauen, W., & Hössinger, R. (2019). The mountains are calling! an extended TPB model for understanding metropolitan residents' intentions to visit nearby alpine destinations in summer. *Tourism Management*, 75, 293–306. DOI: <https://doi.org/10.1016/j.tourman.2019.05.014>

- Kamalanon, P., Chen, J. S., & Le, T. T. Y. (2022). "Why do we buy green products?" an extended theory of the planned behavior model for green product purchase behavior. *Sustainability*, 14(2), 689. DOI: <https://doi.org/10.3390/su14020689>
- Kamsook, S., Phongphiphat, A., Towprayoon, S., & Vinitnantharat, S. (2023). Investigation of plastic waste management in Thailand using material flow analysis. *Waste Management and Research*, 41(4), 924–935. DOI: <https://doi.org/10.1177/0734242X221126376>
- Kim, Y. (2011). Understanding Green Purchase: The influence of collectivism, personal values and environmental attitudes, and the moderating effect of perceived consumer effectiveness. *Seoul Journal of Business*, 17(1), 65–92. DOI: <https://doi.org/10.35152/snusb.2011.17.1.003>
- Kim, Y., & Choi, S. M. (2005). Antecedents of green purchase behavior: An examination of collectivism, environmental concern, and PCE. *Advances in Consumer Research*, NA-32, 592–599.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed.). New York Guilford Press.
- Kumar, N., Garg, P., & Singh, S. (2022). Pro-environmental purchase intention towards eco-friendly apparel: Augmenting the theory of planned behavior with perceived consumer effectiveness and environmental concern. *Journal of Global Fashion Marketing*, 13(2), 134–150. DOI: <https://doi.org/10.1080/20932685.2021.2016062>
- Lee, K. (2008). Opportunities for Green Marketing: Young consumers. *Marketing Intelligence and Planning*, 26(6), 573–586. DOI: <https://doi.org/10.1108/02634500810902839>
- Liang, T. C., Situmorang, R. O. P., Liao, M. C., & Chang, S. C. (2020). The relationship of perceived consumer effectiveness, subjective knowledge, and purchase intention on carbon label products-a case study of carbon-labeled packaged tea products in Taiwan. *Sustainability*, 12(19), 7892. DOI: <https://doi.org/10.3390/su12197892>
- McCarty, J. A., & Shrum, L. J. (1994). The recycling of solid wastes: Personal values, value orientations, and attitudes about recycling as antecedents of recycling behavior. *Journal of Business Research*, 30(1), 53–62. DOI: [https://doi.org/10.1016/0148-2963\(94\)90068-X](https://doi.org/10.1016/0148-2963(94)90068-X)
- Mehdikhani, R., & Valmohammadi, C. (2021). The effects of green brand equity on green word of mouth: The mediating roles of three green factors. *Journal of Business and Industrial Marketing*, 37(2), 294–308. DOI: <https://doi.org/10.1108/JBIM-03-2020-0166>

- Mehta, P., & Chahal, H. S. (2021). Consumer attitude towards green products: Revisiting the profile of green consumers using segmentation approach. *Management of Environmental Quality: An International Journal*, 32(5), 902–928. DOI: <https://doi.org/10.1108/MEQ-07-2020-0133>
- Mostafa, M. M. (2006). Antecedents of Egyptian consumers' green purchase intentions: A hierarchical multivariate regression model. *Journal of International Consumer Marketing*, 19(2), 97–126. DOI: https://doi.org/10.1300/J046v19n02_06
- Munerah, S., Koay, K. Y., & Thambiah, S. (2021). Factors influencing non-green consumers' purchase intention: A partial least squares structural equation modelling (pls-sem) approach. *Journal of Cleaner Production*, 280(1), 124192. DOI: <https://doi.org/10.1016/j.jclepro.2020.124192>
- Nameghi, E. N. M., & Shadi, M. A. (2013). Affective and cognitive: Consumers attitude toward practicing green (reducing, recycling & reusing). *International Journal of Marketing Studies*, 5(1), 157–164. DOI: <https://doi.org/10.5539/ijms.v5n1p157>
- Nekmahmud, M., & Fekete-Farkas, M. (2020). Why not green marketing? determinates of consumers' intention to green purchase decision in a new developing nation. *Sustainability*, 12(19), 1–31. DOI: <https://doi.org/10.3390/su12197880>
- Ozkan, O. (2001). *Remediation of seventh grade student's misconceptions related to ecological concepts through conceptual change approach* [Master Thesis, The Middle East Technical University]. METU Open Science/Access and Institutional Repository System. <https://open.metu.edu.tr/handle/11511/10911>
- Park, H. J., & Lin, L. M. (2020). Exploring attitude–behavior gap in sustainable consumption: Comparison of recycled and upcycled fashion products. *Journal of Business Research*, 117, 623–628. DOI: <https://doi.org/10.1016/j.jbusres.2018.08.025>
- Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of Retailing and Consumer Services*, 29, 123–134. DOI: <https://doi.org/10.1016/j.jretconser.2015.11.006>
- Peterson, R. A. (1994). A Meta-analysis of cronbach's coefficient alpha. *Journal of Consumer Research*, 21(2), 381–391. DOI: <https://doi.org/10.1086/209405>
- Piligrimiene, Ž., Žukauskaite, A., Korzilius, H., Banyte, J., & Dovaliene, A. (2020). Internal and external determinants of consumer engagement in sustainable consumption. *Sustainability*, 12(4), 1–20. DOI: <https://doi.org/10.3390/su12041349>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. DOI: <https://doi.org/10.1037/0021-9010.88.5.879>

- Rausch, T. M., & Kopplin, C. S. (2021). Bridge the gap: Consumers' purchase intention and behavior regarding sustainable clothing. *Journal of Cleaner Production*, 278, 123882. DOI: <https://doi.org/10.1016/j.jclepro.2020.123882>
- Riskos, K., Dekoulou, P., Mylonas, N., & Tsourvakas, G. (2021). Ecolabels and the attitude–behavior relationship towards green product purchase: A multiple mediation model. *Sustainability*, 13(12), 6867. DOI: <https://doi.org/10.3390/su13126867>
- Ruangkanjanases, A., You, J. J., Chien, S. W., Ma, Y., Chen, S. C., & Chao, L. C. (2020). Elucidating the effect of antecedents on consumers' green purchase intention: An extension of the theory of planned behavior. *Frontiers in Psychology*, 11, 1–13. DOI: <https://doi.org/10.3389/fpsyg.2020.01433>
- Saba, A., & Messina, F. (2003). Attitudes towards organic foods and risk/benefit perception associated with pesticides. *Food Quality and Preference*, 14(8), 637–645. DOI: [https://doi.org/10.1016/S0950-3293\(02\)00188-X](https://doi.org/10.1016/S0950-3293(02)00188-X)
- Sharma, K. (2022). An analysis of consumer purchase intention for energy-efficient products. *Energy Efficiency*, 15(8), 1–16. DOI: <https://doi.org/10.1007/s12053-022-10072-7>
- Sidique, S. F., Lupi, F., & Joshi, S. V. (2010). The effects of behavior and attitudes on drop-off recycling activities. *Resources, Conservation and Recycling*, 54(3), 163–170. DOI: <https://doi.org/10.1016/j.resconrec.2009.07.012>
- Sreen, N., Purbey, S., & Sadarangani, P. (2018). Impact of culture, behavior and gender on green purchase intention. *Journal of Retailing and Consumer Services*, 41, 177–189. DOI: <https://doi.org/10.1016/j.jretconser.2017.12.002>
- Sreen, N., Purbey, S., & Sadarangani, P. (2020). Understanding the relationship between different facets of materialism and attitude toward green products. *Journal of Global Marketing*, 33(5), 396–416. DOI: <https://doi.org/10.1080/08911762.2020.1751370>
- Sun, H., Teh, P. L., & Linton, J. D. (2018). Impact of environmental knowledge and product quality on student attitude toward products with recycled/remanufactured content: Implications for environmental education and green manufacturing. *Business Strategy and the Environment*, 27(7), 935–945. DOI: <https://doi.org/10.1002/bse.2043>
- Taylor, S., & Todd, P. (1995). Understanding household garbage reduction behavior: A test of an integrated model. *Journal of Public Policy & Marketing*, 14(2), 192–204. DOI: <https://doi.org/10.1177/074391569501400202>
- Testa, F., Pretner, G., Iovino, R., Bianchi, G., Tessitore, S., & Iraldo, F. (2021). Drivers to green consumption: A systematic review. *Environment, Development and Sustainability*, 23(4), 4826–4880. DOI: <https://doi.org/10.1007/s10668-020-00844-5>

- Testa, F., Sarti, S., & Frey, M. (2019). Are green consumers really green? exploring the factors behind the actual consumption of organic food products. *Business Strategy and the Environment*, 28(2), 327–338. DOI: <https://doi.org/10.1002/bse.2234>
- Tezer, A., & Bodur, H. O. (2021). The greenconsumption effect: How using green products improves consumption experience. *Journal of Consumer Research*, 47(1), 25–39. DOI: <https://doi.org/10.1093/jcr/ucz045>
- Trivedi, R., Patel, J., & Acharya, N. (2018). Causality analysis of media influence on environmental attitude, intention and behaviors leading to green purchasing. *Journal of Cleaner Production*, 196, 11–22. DOI: <https://doi.org/10.1016/j.jclepro.2018.06.024>
- Witek, L., & Kuzniar, W. (2021). Green purchase behavior: The effectiveness of sociodemographic variables for explaining green purchases in emerging market. *Sustainability*, 13(1), 1–18. DOI: <https://doi.org/10.3390/su13010209>
- Xu, Y., Du, J., Shahzad, F., & Li, X. (2021). Untying the influence of green brand authenticity on electronic word-of-mouth intention: A moderation–mediation model. *Frontiers in Psychology*, 12, 724452. DOI: <https://doi.org/10.3389/fpsyg.2021.724452>
- Yu, W., Han, X., Ding, L., & He, M. (2021). Organic food corporate image and customer co-developing behavior: The mediating role of consumer trust and purchase intention. *Journal of Retailing and Consumer Services*, 59, 102377. DOI: <https://doi.org/10.1016/j.jretconser.2020.102377>
- Zhang, B., & Kim, J. H. (2013). Luxury fashion consumption in China: Factors affecting attitude and purchase intent. *Journal of Retailing and Consumer Services*, 20(1), 68–79. DOI: <https://doi.org/10.1016/j.jretconser.2012.10.007>

