

# Factors Affecting on Purchase Intention towards Green Products: A Case Study of Young Consumers in Thailand

Kamonthip Maichum, Surakiat Parichatnon, and Ke-Chung Peng

**Abstract**—This study aims to investigate the determinants that influence purchase intention towards green products of young Thai consumers group among 18 to 29 year olds. We derived and examined the model through structural equation modeling (SEM) in a sample of 425 young respondents in Thailand. Our results indicated that environmental consciousness, environmental knowledge and environmental attitude have significant positive influences on purchase intention towards green products. Hence, environmental attitude had high significant effect on consumers' purchase intention, which reflects that the young consumers have a positive attitude towards green products, thus, making them more purchase intention. Moreover, our results suggest that environmental attitude mediates the relationship between environmental consciousness, environmental knowledge and purchase intention towards green products of young consumers group in Thailand.

**Index Terms**—Green products, purchase intention, Thailand, young consumers.

## I. INTRODUCTION

Environmental issues and their impact on human health has become a major issue among academics, governments and organizations [1], [2]. In particular, Thailand is one of the largest economic and business sectors in Southeast Asia and also one of the world's largest exporters of agricultural and food; the country has developed rapidly, resulting in excessive use and/or consumption of resources and the environment damage. Therefore, consumers are motivated to support or change their behavior towards the purchase of sustainable products. Environmentally friendly products is alternatively known as "eco-friendly products", "ecological products", "sustainable products" or "green products" [3], [4] and in this study referred to as green products. However, producers and marketers have not succeeded in selling green products, although remarkable growth rate among these consumers [5] because of environmentally concerned consumers' fluctuating preference towards green products [6], [7]. According to Lin and Huang [8], understanding of consumer attitudes and motivation would help producers, marketers and policy makers understand the habits and

behaviors of consumers. Thus, to solve these problems, Barber [9] suggested that the various scholars should study and investigate the variables that influence on attitude and purchase intentions of consumers towards green products. Previous studies have used the attitude to examine the motivation towards purchase intention of green products without factoring in the impacts of environmental consciousness and environmental knowledge. Environmental consciousness and environmental knowledge are important factors influencing the purchasing decision for green products [10], [11]. Numerous studies have examined the purchase intentions of consumers towards green products in developed countries such as Italy [12], Germany [13], United Kingdom [14] and United States [15]. However, very few studies have focused on the response of consumers towards green products in developing countries [1], especially in Thailand. In Thailand, research on environmental issues and green purchase intention is just the beginning as compared to other developing countries and a special focus on young consumers [16], [17].

Young generation are the future of our society and country, which they seems to have an attitude and concept is different when compared to other generations [18]. Wray-Lake, Flanagan, and Osgood [19] demonstrated that young people are the starting point for a movement of green behavior. Young consumers are the most potential of green consumer group due to they are ready with ideas, knowledge, attitude and green consciousness [20], [21], thus, they are able to understand the complexity of the green market as well. Therefore, understanding the views of young people on the green behavior is very important as they are the future consumers and representatives of society [18]. The main objectives of this study to investigate the determinants that influence purchase intention of sustainable consumption through green products of young consumer in Thailand.

## II. LITERATURE REVIEW AND HYPOTHESIS

### A. Green Products and Young Consumers

Green products are harmless to human health, atmosphere and environment. In another hand, the Organization for Economic Cooperation and Development (OECD) has defined green products can be prevented, reduced environmental damage, such as ecosystems, waste, noise, water, air and soil [22]. Jaganath [23] showed that environmental attitude have a positive influence on green purchasing behavior of young consumers in India and the study suggested that the young people are an important target group for the future. Tan and Lau [24] concluded that

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sustainable consumption behavior has impact mostly on young consumers. Young Consumers in Thailand can serve as a leadership in the family when they receive information about new products, in particular, they have more power to purchase and spread word of mouth about products information even though some young consumers do not have an income [25].

*B. Environmental Consciousness*

Environmental consciousness is a concept reflecting a person’s readiness to do something to his/her own environment. According to Lin, and Huang [8], the process of developing environmental consciousness requires time and a change in attitudes and purchasing habits, therefore, the relationship between environmental consciousness, attitude and purchase intention should be monitored. Ariffin, Yusof, Putit, and Shah [26] found that the positive relationship between environmental consciousness and purchase intention towards green products. Tsay [27] observed that the adoption of green consumption will help strengthen the environmental quality and are willing to spend more on green products. Several studies have examined the influence of environmental consciousness on the green products purchase intention [3], thus it is hypothesized that:

H1: Environmental consciousness significantly influences youth’s purchase intention towards green products.

Environmental consciousness is defined by Schlegelmilch, Bohlen, and Diamantopoulos [5] as the ability to create a positive attitude and to develop habits that will reduce their environmental impact. Environmental consciousness of the individual affects their attitude [28]. Tarkiainen and Sundqvist [29] showed that consciousness influenced consumer attitudes towards buying organic food. Chen [30] also reported a positive impact of the consciousness and environmental attitude toward organic foods among Taiwanese. Accordingly, we propose the following hypotheses.

H2: Environmental consciousness significantly influences youth’s environmental attitude towards green products.

*C. Environmental Knowledge*

According to Stutzman and Green [31], environmental knowledge is important in creating the necessary attitude toward green consumption. The people who knowledge about environment can lead to environmental impact and environmental responsibility of the individual, which may contribute to sustainable development [32]. Noor *et al.* [33] showed that environmental knowledge has direct effects on environmental attitude in Malaysia. Furthermore, previous researchers reported that environmental knowledge has significant positive influence on consumers’ environmental attitude [11], [34], this study hypothesizes that:

H3: Environmental knowledge significantly influences youth’s environmental attitude towards green products.

Knowledge is a key element in the consumer’s decision to purchase green products [10]. Wang, Liu, and Qi [35] found a positive relationship between environmental knowledge and purchase intention towards green products. Moreover, Vicente-Molina, Fernández-Sánchez, and Izagirre-Olaizola [36] reported that environmental knowledge has direct effects on

pro-environmental intention and behavior of university students. Therefore, we propose that:

H4: Environmental knowledge significantly influences youth’s purchase intention towards green products.

*D. Environmental Attitude*

Environmental attitude refers an individual’s positive or negative evaluation of self-performance [37], [38], particularly environmental behavior. Ajzen and Fishbein [39] proposed that an individual’s attitude has direct effects on their behavioral intention; therefore, environmental attitude is one of the important variables in predicting consumers’ purchase intention towards green products. Many studies found that environmental attitude affect youth’s purchase intention towards green products [1], [40]. Based on this discussion, we propose that:

H5: Environmental attitude significantly influences youth’s purchase intention towards green products.

III. RESEARCH METHODOLOGY

This study used a questionnaire survey method to collect data for testing the validity of the model and to test the hypotheses. According to previous studies have mentioned that these young consumers are interested in more sustainable behavior as well, such as buying green products [18], [41]. Therefore, data were collected through face to face interviews from young Thai consumers and focus young consumers group among 18 to 29 year olds. Moreover, quota sampling technique was used to select respondents of or aged 18-29 that resided in Thailand. Individual respondents who purchase green products in Thailand were considered to be the target population. The survey was conducted at green shops, green market, convenience store and department stores in Thailand from June to September 2016. The questions for each construct in the questionnaire were selected and modified from previous studies. The questionnaire used the five-point Likert scale (1 = strongly disagree through 5 = strongly agree). Thus, the questionnaire items of this study are provided in Table I. Data analyses were conducted using the statistical package for social sciences (SPSS 23.0) and analysis of moment structures (AMOS 19.0) software, to achieve the purpose and to test hypotheses of this study.

TABLE I: QUESTIONNAIRE ITEMS

Constructs / Questionnaire Items	Sources
Environmental consciousness (ECN)	
ECN1: I am very conscious of the environmental issues that I am facing in my life.	
ECN2: It is very important to raise environmental consciousness among Thai people.	[3, 26, 42, 43]
ECN3: I have consciousness that purchasing green products will contribute to the sustainable future.	
Environmental knowledge (EK)	
EK1: I am very knowledgeable about environmental issues.	
EK2: I understand the environmental phrases and symbols on product packages.	[1, 10, 44]
EK3: I know that I buy a green product that is environmentally safe.	
Constructs / Questionnaire Items	Sources

Environmental attitude (EA)	
ATT1: Green product is a good idea.	
ATT2: Green product is good for the environment.	[10, 45]
ATT3: I have a favorable attitude towards green product.	
Purchase intention towards green products (PI)	
PI1: I choose to purchase products that are environmentally-friendly.	
PI2: I buy green products even if they are more expensive than normal products.	[18, 46, 47]
PI3: I intend to purchase green products next time because of its positive environmental contribution.	

IV. RESULTS

A. Descriptive Analysis

A total of 550 questionnaires were distributed and 425 usable responses were obtained yielding a response rate of 77.27%. As shown in Table II, a majority of the young respondents were females (64.24%), aged 18–23 years (70.12%), single (56.47%), graduates with a university degree (48.47%), with a family size of 2–3 persons (40.94%) and a monthly income ranged 5,001 –10,000 THB per person (1 USD = 35.7074 THB as of 1st June, 2016).

TABLE II: DEMOGRAPHIC CHARACTERISTICS OF SAMPLE (N = 425)

Items	Classification	Frequency	Percentage
Gender	Female	273	64.24
	Male	152	35.76
Age	18 –23 years	298	70.12
	24 –29 years	127	29.88
Marital Status	Single	240	56.47
	Married	185	43.53
Educational Level	Community College	23	5.41
	High School	68	16.00
	Other Post-Secondary	128	30.12
Family Size	University	206	48.47
	1 person	32	7.53
	2–3 persons	174	40.94
	4–5 persons	164	38.59
Monthly Income	More than 5 persons	55	12.94
	Less than 5,000 THB	81	19.06
	5,001 –10,000 THB	157	36.94
	10,001 –20,000 THB	113	26.59
Monthly Income	20,001 –30,000 THB	23	5.41
	More than 30,001 THB	51	12.00

B. Reliability and Validity of the Measurement Model

The measurement model was evaluated through confirmatory factor analysis (CFA) to test the reliability and convergent validity of all constructs. Table III shows Cronbach’s  $\alpha$  values ranged from 0.734 to 0.859, therefore demonstrating a high level of reliability. All of the constructs had a Cronbach’s  $\alpha$  coefficients beyond 0.700 [48], which indicates that all constructs were internally consistent and reliable. In addition, the ranges of factor loadings were between 0.683 and 0.890, which were above the recommended level of 0.600 as suggested by Bagozzi and Yi [49]. Hair, Anderson, Tatham, and Black [50] and Alamsyah and Angliawati [51] suggested that estimates of the composite reliability (CR) and average variance extracted (AVE) which measures the amount of variance explained by the given

construct, should be more than 0.700 and 0.500, respectively. This study shows CR and AVE values ranged from 0.751 to 0.872 and 0.506 to 0.681, respectively, which shows that all value exceeds the recommended level of 0.700 and 0.500. Moreover, the acceptable values for evaluating the measurement model fit are: (1) the ratio of the chi-square value to degree of freedom ( $\chi^2/df$ ) should be lower than 5.000; (2) goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), relative fit index (RFI), normalized fit index (NFI) should be greater than 0.900; (3) comparative fit index (CFI) should be more than 0.950; (4) root mean square error of approximation (RMSEA) should be below 0.080; and (5) root mean square residual (RMR) should be less than 0.050 [52, 53]. CFA findings showed that the measurement model fit indices were as follows:  $\chi^2 = 113.152$  ( $p < 0.001$ ),  $df = 47$ ,  $\chi^2/df = 2.407$ , GFI = 0.961, AGFI = 0.920, RFI = 0.917, NFI = 0.934, CFI = 0.963, RMSEA = 0.061, and RMR = 0.034. The indicators exceed acceptable levels. Therefore, the results indicated that this measurement model had validity and reliability. As shown in Table IV, the descriptive statistics of the constructs were quite high and relatively favorable. It also shows the correlations between constructs and all correlations were significant ( $p < 0.001$ ).

TABLE III: VALIDITY OF THE MEASUREMENT MODEL

Construct	Question Item	Cronbach’s $\alpha$	Standardized	CR	AVE
			Factor Loading		
ECN	ECN1	0.734	0.683 <sup>a</sup>	0.751	0.506
	ECN2		0.771 <sup>***</sup>		
	ECN3		0.670 <sup>***</sup>		
EK	EK1	0.809	0.706 <sup>a</sup>	0.811	0.592
	EK2		0.758 <sup>***</sup>		
	EK3		0.836 <sup>***</sup>		
EA	EA1	0.830	0.744 <sup>a</sup>	0.831	0.624
	EA2		0.790 <sup>***</sup>		
	EA3		0.829 <sup>***</sup>		
PI	PI1	0.859	0.854 <sup>a</sup>	0.872	0.681
	PI2		0.890 <sup>***</sup>		
	PI3		0.721 <sup>***</sup>		

Note: <sup>\*\*\*</sup>  $p < 0.001$ , <sup>a</sup> Values were not calculated because loading was set to 1.000 to fix construct variance

TABLE IV: DESCRIPTIVE STATISTICS AND CORRELATIONS BETWEEN CONSTRUCTS

	ECN	EK	EA	PI
ECN	1.000			
EK	0.400 <sup>***</sup>	1.000		
EA	0.398 <sup>***</sup>	0.405 <sup>***</sup>	1.000	
PI	0.326 <sup>***</sup>	0.462 <sup>***</sup>	0.476 <sup>***</sup>	1.000
Mean	3.558	4.014	4.215	4.340
Standard Deviation	0.967	0.843	0.742	0.735

Note: <sup>\*\*\*</sup>  $p < 0.001$

C. Hypotheses Testing

Fig. 1. shows the results of research model with estimated path coefficients for the hypothesized relationships. The results of the model fit were higher than the suggested goodness-of-fit values and the hypothesized model testing revealed that the model fit the data very well ( $\chi^2 = 210.415$  ( $p < 0.001$ ),  $df = 59$ ,  $\chi^2/df = 3.566$ , GFI = 0.973, AGFI = 0.928,

RFI = 0.926, NFI = 0.946, CFI = 0.974, RMSEA = 0.057, and RMR = 0.022). Table 5 presents the results of testing the five hypotheses. Environmental consciousness showed significant influences on purchase intention towards green products (H1:  $\beta_1 = 0.27$ ,  $t = 6.23$ ,  $p < 0.05$ ) and the H1 was supported. Environmental consciousness showed significant positive influences on environmental attitude (H2:  $\beta_2 = 0.39$ ,  $t = 10.79$ ,  $p < 0.01$ ), therefore, H2 was supported. The positive relationship between environmental knowledge and environmental attitude (H3:  $\beta_3 = 0.46$ ,  $t = 14.69$ ,  $p < 0.001$ ). Thus, H3 was supported. The impact of environmental knowledge had significant positive effects on purchase intention towards green products (H4:  $\beta_4 = 0.35$ ,  $t = 8.95$ ,  $p < 0.01$ ), supporting H4. Finally, environmental attitude showed significant positive influences on purchase intention towards green products (H5:  $\beta_5 = 0.64$ ,  $t = 20.64$ ,  $p < 0.001$ ). In this case H5 was supported.

environmental attitude had significant positive influence on purchase intention towards green products for young Thai consumers and its measures were appropriate for the studied group. Environmental attitude towards green products had a strongest direct influence on purchase intention of the young consumers in Thailand between the ages of 18 to 29 years, thus, shows that Thai youths has a positive attitude towards green products, which makes them more purchase intention. Maichum, Parichatnon, and Peng [10] showed that attitude has most significant positive relationship with consumer's purchase intention. Environmental consciousness reported a significant positive effect on environmental attitude and purchase intention towards green products, which supported the findings of [42], [43]. Furthermore, the empirical finding reported that environmental knowledge was the strongest predictor of environmental attitude for green products and followed by purchase intention.

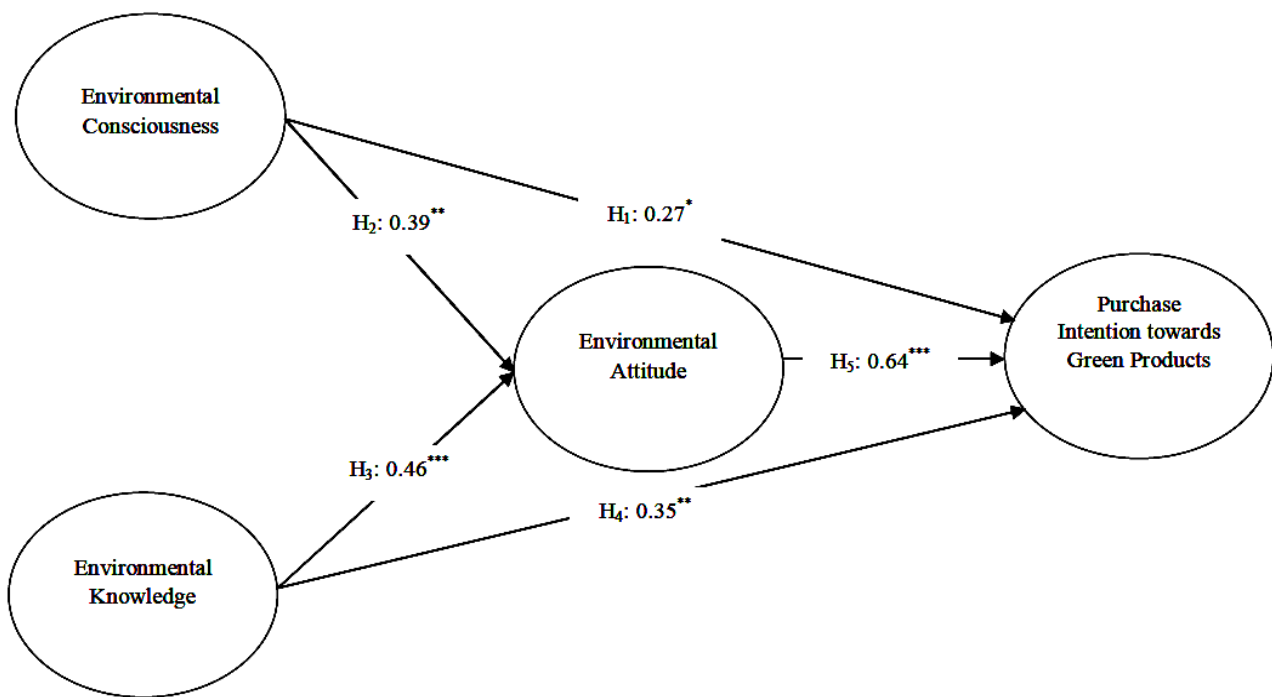


Fig. 1. The results of the research model (\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ )

TABLE V: HYPOTHESES RESULTS FOR THE STRUCTURAL MODEL

Hypothesis	Path Correlation	Standardized estimates	t-Value	Results
H1	ECN → PI	0.27*	6.23	Supported
H2	ECN → EA	0.39**	10.79	Supported
H3	EK → EA	0.46***	14.69	Supported
H4	EK → PI	0.35**	8.95	Supported
H5	EA → PI	0.64***	20.64	Supported

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

### V. DISCUSSION AND CONCLUSION

This study investigated the determinants that influence young consumers' intention to purchase toward green products in Thailand. The result revealed that the environmental consciousness, environmental knowledge and

According to Yadav and Pathak [1], environmental knowledge has a positive relationship between attitude and intention towards buying green products of India's consumers. Therefore, suggests that the importance of environmental consciousness and environmental knowledge related to the environmental attitude and purchase intention of young consumers and lead to sustainable development.

### VI. LIMITATIONS AND FUTURE DIRECTIONS

This study has limitations which should be corrected in further research and future directions of the study. First, this study focuses on young consumers to understand the specific group; therefore, the future research could investigate consumers throughout Thailand. Second, the survey will be extended to examples in other countries in future studies to

examine the results of our research. Finally, the future research could use the longitudinal approach to ascertain the change of consumers' purchase intention, which this approach would be very useful to observe the reactions of consumers who intend to buy green products.

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