

The Influence of Environmental Concern and Environmental Attitude on Purchase Intention towards Green Products: A Case Study of Young Consumers in Thailand

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ABSTRACT: *The purpose of this study is to investigate the influence of environmental concern and environmental attitude on purchase intention towards green products of young consumers in Thailand and the target group will be between 18-30 years old. Hence, a total of 500 questionnaires were distributed to young Thai consumers and 412 usable responses, representing a response rate of 82.40%. Data were analyzed using confirmatory factor analysis (CFA) and structural equation modeling (SEM) was created to evaluate structural model. The findings of this study indicated that environmental concern and environmental attitude had significant positive influence on purchase intention towards green products. Moreover, the overall results have confirmed that the environmental attitude has a strongest direct influence on purchase intention. Thus, the findings could provide insights important for environmental sustainability and views of young consumers in Thailand.*

KEYWORDS: *Environmental attitude, Environmental concern, Green products, Purchase intention, Young consumers*

I. INTRODUCTION

In current, human cannot deny that the environment has changed considerably worldwide because of factors such as global warming and natural disasters which affect not only living organisms but also the economic and social conditions of people worldwide (Maichum, Parichatnon, & Peng, 2016). Yadav and Pathak (2016) and Haytko and Matulich (2008) found that environmental problems and their impact on human health has become a major issue among government and organizations. Thailand is one of the largest economic and business sectors in Southeast Asia, thus, it is developing rapidly, resulting in excessive use and/or consumption of resources and environmental damage. These environmental impacts makes the consumers more concerned about the environment and awareness towards the destruction of natural resources has become important for them (Pino, Peluso, & Guido, 2012; Prakash & Pathak, 2017). In addition, the potential health concerns in consuming the product may be contaminated with chemicals and related to product safety crisis (Mazar & Zhong, 2010). These is an important starting point to bring the consumers decide to purchase environmentally friendly products and contribute to sustainable development. Environmentally friendly products is alternatively known as “ecological products”, “sustainable products” or “green products” (Mont & Plepys, 2008) and in this study referred to as green products. Production of green products substantially increased worldwide in recent years, which do not pollute the environment, can be recycled, reducing the use of natural resources and also reducing or eliminating the use of toxicity materials, pollution and waste (Dangelico & Pujari, 2010; Maichum et al., 2016). Thus, the consumers accepted green products in terms of sustainable consumption (Joshi & Rahman, 2015). However, manufacturers and marketers have not succeeded in selling green products, although remarkable growth rate among these consumers, due to environmentally concerned consumers’ fluctuating preference towards green products (Paul, Modi, & Patel, 2016; Schlegelmilch, Bohlen, & Diamantopoulos, 1996). Lin and Huang (2012) proposed that the understanding of consumer attitudes would help manufacturers

and marketers understand the habits and behaviors of consumers. Therefore, N. Barber (2010) recommended that it should study and examine the variables that influence on attitudes 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 concerns. Environmental concerns is a key factor influencing the decision to buy green products (Ritter, Borchardt, Vaccaro, Pereira, & Almeida, 2015). Gilg, Barr, and Ford (2005) suggested that green purchase intention is relatively a new theme for the research and we still lack clarity conclusion regarding the role of environmental concern on green purchase intention. Many studies have examined the intentions of consumers to buy green products in developed countries, such as United States (N. A. Barber, Bishop, & Gruen, 2014), United Kingdom (Tobler, Visschers, & Siegrist, 2011) and Italy (Gracia & de Magistris, 2013). However, very few studies have focused on developing countries (Yadav & Pathak, 2016), especially in Thailand. The research on purchase intention towards green products in Thailand is only the beginning as compared to other developing countries and a special focus on young consumers (Nuttavuthisit & Thogersen, 2015).

Young generation is the future of our society and country, which they seem to have the attitude and concept is different when compared with other generations (Kanchanapibul, Lacka, Wang, & Chan, 2014). Previous studies suggested that the age of consumers influenced their purchase intention (Kanchanapibul et al., 2014; Yadav & Pathak, 2016). Consequently, they do not consider only the present but also concerned about the future consequences of their actions and may choose to be green consumer products throughout their life. In addition, young consumers are likely to find more information through technology or social media before making the actual purchase. For this reason, understanding the views of young people on green behavior is very important because they are the future consumers and representatives of society (Kanchanapibul et al., 2014). Purchase behavior of the green products among young Thai consumers has not been thoroughly investigated. This study aims to investigate the effects of purchase intention towards green products of young consumer in Thailand by testing a conceptual model that considers environmental concern and environmental attitude simultaneously.

II. LITERATURE REVIEW AND HYPOTHESIS

2.1 Green Products and Young Consumers

According to Shamdasani, Chon-Lin, and Richmond (1993), green products are products that do not harm the environment or human health. Green products have been developed from increasing concerns about global warming, pollution, diminishing natural reserves and solid waste; therefore, the consumers translate environmental concerns into staunch commitment to buying green products (Maichum et al., 2016; Srivastava, 2007). Pickett-Baker and Ozaki (2008) reported that the young consumers are more open minded and strongly influence on their purchasing decision of green products. Previous research has identified that the young Thai consumers 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 (Teerachote, Kessomboom, Rattanasiri, & Koju, 2014).

2.2 Purchase intention

Purchase intention is a conscious plan of action, which specifically requires a behavior to activate it (Patch, Tapsell, & Williams, 2005). Yadav and Pathak (2016) proposed that purchase intention is strongly correlated with environmental concern and environmental attitude. Therefore, previous studies have shown that the intention is the best predictor of the human behavior (Gracia & de Magistris, 2013; Liobikienė, Mandravickaitė, & Bernatoniene, 2016).

2.3 Environmental Concern

Alibeli and Johnson (2009) define environmental concern is the awareness of a person about environmental issues and the willingness to solve environmental problems of them. On the other hand, Kalafatis, Pollard, East, and Tsogas (1999), environmental concerns could mean the awareness and stimulating the consumer to the fact that natural resources are limited and the environment in danger. Thus,

Diamantopoulos, Schlegelmilch, Sinkovics, and Bohlen (2003) observed that environmental concerns as a key factor in consumer decision making process. Environmental concerns are a major motivation of environmental attitudes (Yadav & Pathak, 2016). According to Hanson (2013), environmental concern has been associated with attitude towards green consumers in Canada. Yadav and Pathak (2016) showed that environmental concern significantly influence the attitude towards green products in youth consumer in India. Maichum et al. (2016) presented that environmental concern have a direct impact on attitudes towards green products among Thai consumers. Hence, we hypothesize that:

H1: Environmental concern significantly influences youth's environmental attitude towards green products.

Lee, Kim, Kim, and Choi (2014) found that the positive relationship between environmental concern and green purchase intention has been established in behavior toward the environment. Mostafa (2009) pointed that environmental concern among the key variables that influences attitude and purchase intention towards green products. Irawan and Darmayanti (2012) showed that environmental concern had a positive significant effect on green purchase intention among Indonesian students. In addition, several researchers have investigated the relationship between the environmental concern and purchase intention of green products (Albayrak, Aksoy, & Caber, 2013; Aman, Harun, & Hussein, 2012). Therefore, environmental concern is an important factor in supporting purchase intention towards green products and we hypothesize that:

H2: Environmental concern significantly influences youth's purchase intention towards green products.

2.4 Environmental Attitude

According to Ajzen (1991), attitude toward the behavior is defined as the degree to which a person has a favorable or unfavorable evaluation of the behavior in question shown by the consumer. Therefore, consumers who have a positive attitude will make them motivated to buy or consume the product (Hill & Lynchehaun, 2002). Yadav and Pathak (2016) reported that the environmental attitude has direct effects on their intention to purchase green products. Several studies found that environmental attitudes affect youth's purchase intention towards green products (Prakash & Pathak, 2017; Yadav & Pathak, 2016). Hence, based on the above discussion, this study hypothesizes that:

H3: Environmental attitude significantly influences youth's purchase intention towards green products.

III. METHODOLOGY

3.1 Sample and Measures

This study used a questionnaire survey method to test the hypotheses and research framework. Previous studies have mentioned that the young consumers are interested in more sustainable behavior as well, such as purchase of green products (David Lee et al., 2016; Kanchanapibul et al., 2014). Consequently, the data were collected through face to face interviews from young consumers in Thailand and focuses on a group of young consumers among 18-30 years, who purchase green products in Thailand. The survey was conducted at green market, green shops, convenience store and department stores in Thailand from August to November 2016. In this study, a total of 500 questionnaires were distributed and 412 usable responses were obtained yielding a response rate of 82.40%. As presented in Table 1, a majority of the young respondents were females (72.09%), aged 18-24 years (66.50%), single (60.68%), graduates with a university degree (43.69%) and a monthly income ranged 5,001 -10,000 THB per person (1 USD = 34.7756 THB as of 1st June, 2016). The questions for each construct in the questionnaire were selected and modified from previous studies. This study has three constructs. First, environmental concern was measured on four items based on Maichum et al. (2016), Yadav and Pathak (2016) and Mostafa (2009). Second, the validated three items were used to measure environmental attitude taken from these studies (Y. Kim & Han, 2010; Maichum et al., 2016; Mark & Law, 2015). Finally, purchase intention towards green products was measured on three items and modified from earlier studies (Kanchanapibul et al., 2014; Y. J. Kim, Njite, & Hancer, 2013; Mark & Law, 2015). The questionnaire items were measured on a five-point likert scale (1 = strongly disagree through 5 = strongly agree). Table 2 reported the descriptive statistics of the questionnaire items of this study.

Table 1: Demographic characteristics of sample (N = 412)

| Items | Classification | Frequency | Percentage |
|-------------------|----------------------|-----------|------------|
| Gender | Female | 297 | 72.09 |
| | Male | 115 | 27.91 |
| Age | 18 –24 years | 274 | 66.50 |
| | 25 –30 years | 138 | 33.50 |
| Marital status | Single | 250 | 60.68 |
| | Married | 162 | 39.32 |
| Educational level | Community College | 62 | 15.05 |
| | High School | 76 | 18.45 |
| | Other Post-Secondary | 94 | 22.81 |
| | University | 180 | 43.69 |
| Monthly income | Less than 5,000 THB | 73 | 17.72 |
| | 5,001 –10,000 THB | 115 | 27.91 |
| | 10,001 –20,000 THB | 102 | 24.76 |
| | 20,001 –30,000 THB | 75 | 18.20 |
| | More than 30,001 THB | 47 | 11.41 |

Table 2: Descriptive statistics of the questionnaire items

| Constructs / Questionnaire items | Mean | Standard deviation |
|---|-------|--------------------|
| Environmental concern (EC) | 3.674 | 0.905 |
| EC1: When humans interfere with nature, it will cause serious consequences. | 3.762 | 0.839 |
| EC2: I am willing to reduce my consumption to help protect the environment. | 3.509 | 0.947 |
| EC3: The balance of nature is very delicate and can be easily upset. | 3.634 | 0.923 |
| EC4: I am concerned about the current environmental state the world is in. | 3.790 | 0.811 |
| Environmental attitude (EA) | 4.234 | 0.728 |
| EA1: Green product is good for the environment. | 4.236 | 0.736 |
| EA2: Green product is a good idea. | 4.157 | 0.763 |
| EA3: I have a favorable attitude towards green product. | 4.309 | 0.711 |
| Purchase intention (PI) | 4.385 | 0.709 |
| PI1: I buy green products even if they are more expensive than normal products. | 4.421 | 0.703 |
| PI2: I choose to purchase products that are environmentally-friendly. | 4.538 | 0.697 |
| PI3: I intend to purchase green products next time because of its positive environmental contribution | 4.196 | 0.775 |

3.2 Data Analysis

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. First, Cronbach's α was calculated for examining the internal consistency of the measures (reliability). Second, confirmatory factor analysis (CFA) was used for confirming the convergent and discriminant validities, and an overall fit with data was evaluated to ensure the validity and reliability of the model. Finally, the structural equation modeling (SEM) a comprehensive statistical approach was used for evaluating our hypotheses and for examining the associations among the constructs of interest by using a combination of statistical data.

IV. RESULTS

4.1 The Results of the Measurement Model

The measurement model was evaluated through CFA to test the reliability and validity of all constructs. As shown in Table 3, the reliability analysis showed that the Cronbach's α values ranged from 0.829 to 0.870, which indicates a high level of reliability. The results of the analysis showed that the all of the constructs had Cronbach's α coefficients exceeded the recommended value of 0.700 (Nunnally & Bernstein, 1994), which indicated stability and acceptable reliability for measurement items. Moreover, the range of standardized factor loadings were between 0.710 and 0.880, which showed that the standardized factor loadings were above the recommended level of 0.600, according to the recommendations of Bagozzi and Yi (1988). Hair, Anderson, Tatham, and Black (1998) indicated that the estimates of the composite reliability (CR) and average variance extracted (AVE) which measures the amount of variance explained by the given construct, should be greater than 0.700 and 0.500, respectively. This study demonstrated that CR values ranged from 0.830 to 0.857 and AVE values ranged from 0.592 to 0.667, respectively, which shows that all value exceeds the recommended level. According to Steiger (2007) and Tabachnick, Fidell, and Osterlind (2001), the acceptable values for evaluating the measurement model fit are: (1) the ratio of the chi-square value to degree of freedom (χ^2/df) should be below 5.000; (2) goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), relative fit index (RFI), normalized fit index (NFI) should be more than 0.900; (3) comparative fit index (CFI) should be greater than 0.950; (4) root mean square error of approximation (RMSEA) should be lower than 0.080; and (5) root mean square residual (RMR) should be less than 0.050. From CFA analysis, the results showed that the measurement model fit indices were as follows: $\chi^2 = 104.281$ ($p < 0.001$), $df = 42$, $\chi^2/df = 2.483$, $GFI = 0.957$, $AGFI = 0.916$, $RFI = 0.912$, $NFI = 0.928$, $CFI = 0.958$, $RMSEA = 0.055$ and $RMR = 0.027$. All the indicators exceed acceptable levels. Thus, this analysis confirmed that this measurement model had validity and reliability. Furthermore, Table 4 proposed that the inter-correlations among measurement variables of this study.

Table 3: Validity of the measurement model

| Construct | Question item | Cronbach's α | Standardized factor loading | Composite reliability | Average variance extracted |
|-----------------------------|---------------|---------------------|-----------------------------|-----------------------|----------------------------|
| Environmental concern (EC) | EC1 | 0.850 | 0.812 ^a | 0.851 | 0.625 |
| | EC2 | | 0.829*** | | |
| | EC3 | | 0.710*** | | |
| | EC4 | | 0.759*** | | |
| Environmental attitude (EA) | ATT1 | 0.829 | 0.744 ^a | 0.830 | 0.592 |
| | ATT2 | | 0.792*** | | |
| | ATT3 | | 0.827*** | | |
| Purchase intention (PI) | PI1 | 0.870 | 0.863 ^a | 0.857 | 0.667 |
| | PI2 | | 0.871*** | | |
| | PI3 | | 0.880*** | | |

Note: *** $p < 0.001$, ^a Values were not calculated because loading was set to 1.000 to fix construct variance.

Table 4: Inter-correlations among model variables

| | EC1 | EC2 | EC3 | EC4 | EA1 | EA2 | EA3 | PI1 | PI2 | PI3 |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|
| EC1 | 1.000 | | | | | | | | | |
| EC2 | 0.592*** | 1.000 | | | | | | | | |
| EC3 | 0.512*** | 0.483*** | 1.000 | | | | | | | |
| EC4 | 0.541*** | 0.491*** | 0.470*** | 1.000 | | | | | | |
| EA1 | 0.609*** | 0.583*** | 0.561*** | 0.472*** | 1.000 | | | | | |
| EA2 | 0.515*** | 0.528*** | 0.539*** | 0.613*** | 0.575*** | 1.000 | | | | |
| EA3 | 0.561*** | 0.467*** | 0.548*** | 0.589*** | 0.499*** | 0.569*** | 1.000 | | | |
| PI1 | 0.638*** | 0.576*** | 0.513*** | 0.527*** | 0.476*** | 0.441*** | 0.398*** | 1.000 | | |
| PI2 | 0.521*** | 0.479*** | 0.398*** | 0.438*** | 0.516*** | 0.632*** | 0.564*** | 0.503*** | 1.000 | |
| PI3 | 0.572*** | 0.498*** | 0.427*** | 0.487*** | 0.532*** | 0.579*** | 0.462*** | 0.487*** | 0.513*** | 1.000 |

Note: *** $p < 0.001$.

4.2 The Results of the Research Model

Figure 1 shows the results of research model. The results of the overall model were more than the recommended values and research model revealed that the model fit the data very well ($\chi^2 = 203.478$ ($p < 0.001$), $df = 53$, $\chi^2/df = 3.839$, $GFI = 0.964$, $AGFI = 0.921$, $RFI = 0.919$, $NFI = 0.936$, $CFI = 0.969$, $RMSEA = 0.059$ and $RMR = 0.031$). In addition, Table 5 shows the results of testing the three hypotheses. First, environmental concern had significant positive influences on environmental attitude ($H_1: \beta_1 = 0.395$, $t = 10.86$, $p < 0.01$) indicated that H_1 was supported. Second, the impact of environmental concern ($H_2: \beta_2 = 0.429$, $t = 14.72$, $p < 0.001$) had significant positive effects on purchase intention towards green products, thus supporting H_2 . Finally, the positive relationship between environmental attitude and purchase intention towards green products ($H_3: \beta_3 = 0.541$, $t = 16.33$, $p < 0.001$) indicated that H_3 was supported.

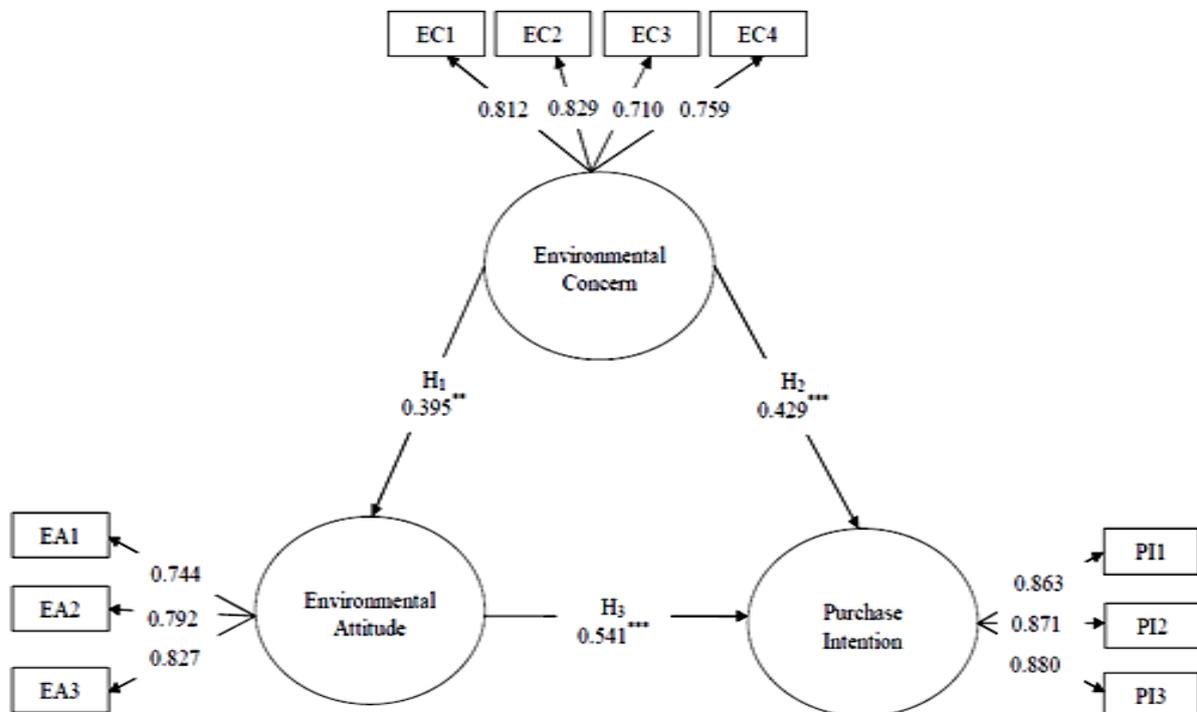


Figure 1: The results of the research model (** $p < 0.01$; *** $p < 0.001$)

Table 5: Hypotheses results for the structural model

| Hypothesis | Path correlation | Standardized estimates | t-Value | Results |
|------------|--|------------------------|---------|-----------|
| H1 | Environmental concern → Environmental attitude | 0.395** | 10.86 | Supported |
| H2 | Environmental concern → Purchase intention | 0.429*** | 14.72 | Supported |
| H3 | Environmental attitude → Purchase intention | 0.541*** | 16.33 | Supported |

Note: ** $p < 0.01$; *** $p < 0.001$

V. DISCUSSION AND CONCLUSIONS

This study examined the influence of environmental concern, environmental attitude and purchase intention towards green products of young consumers in Thailand. The results proposed that environmental concern and environmental attitude had significant positive influence on green purchase intention of young consumers in Thailand. In addition, the overall results confirmed that the environmental attitude has a strongest direct influence on green purchase intention among the studied group in Thailand. The study therefore shows that if they have a positive environmental attitude and will influence their purchase intention towards green products, which make them buy more and more often. According to Yadav and Pathak (2016) showed that the attitude has a significant positive relationship with green purchase intention. On the other hand, this study suggests that environmental concern had high significant effect on environmental attitude and purchase intention, just as Maichum et al. (2016) and Paul et al. (2016). Furthermore, this study could help suggest the marketers and policy makers to understand influence on purchase intention towards green products of young consumers in Thailand. If they understand young consumers, it may help increase the purchasing behavior of young consumers in Thailand and also positive impact on the environment. Thus, future studies may focus on different demographics of people in Thailand to know the general results of the survey and may determine specific products, for example organic products, green toys, eco-car and so on.

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