

## Antecedents Affecting Purchase Intention of Green Skincare Products: A Case Study in Vietnam

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### Abstract

The study aims to investigate the antecedents affecting purchase intention in the category of green skincare products. Many studies have used the theory of planned behavior to investigate factors affecting intention to purchase products in general. This paper not only retests the influences of attitude, subjective norm, perceived behavioral control on the intention to buy eco-friendly skincare products but also suggests a new antecedent – environment knowledge of purchase intention. More importantly, this study is the first to propose the moderating effect of country of origin and product knowledge on the relationship between attitude and purchase intention. This study employs a sample of 350 female customers from 18 to 39 years old in Ho Chi Minh City. The research applies the Multiple Linear Regression to analyze the proposed hypotheses in the conceptual framework and results in significant outcomes. The result shows that attitude is the most influential factor then, subjective norm, perceived behavioral control and environmental knowledge. Most importantly, the findings of this study suggest that product knowledge is found to moderate the effect of attitude on purchase intention. The finding of moderating effect is a new contribution to the literature and future research can be carried out to validate this result.

**Keywords:** Theory of Planned Behavior, Purchase Intention, Environmental Knowledge, Country of Origin, Product Knowledge

**JEL Classification Code:** M37, M31, L1, M30

### 1. Introduction

In recent years, the trend in beauty products in general and skincare products in specific concentrates on natural extract and environmentally friendly manufactured products. The explanation for this is the universal

environmental crisis. Environmental deterioration has never ceased to draw public attention and provoke controversy (Oh & Park, 2020; Choi, 2020; Nguyen et al., 2021). Moreover, the cosmetics industry has been well-known for its bad reputation of using animals to conduct trial experiments. Under this context, consumers nowadays are more well-informed and knowledgeable. Besides the functional benefits brought by the products, consumers are also concerned about the detrimental effects placed on the environment and animals. As a result, so pervasive these green initiative trends have become that manufacturers in this industry are required to invest in product innovation so that they can cope with this new fad possessing vastly potential opportunities (Nguyen, 2021; Lee & Lim, 2020). This research concentrates on identifying the drivers that motivate customers' intention to buy green skincare products and evaluating how each antecedent can influence the intention to buy such products. Secondly, it proposes the moderating effect of some factors on the association between Attitude and Purchase Intention. The result will contribute to the literature of consumer behavior in making decisions (Luc, 2018; Park & Park, 2019).

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## 2. Literature Review and Hypotheses Development

### 2.1. Green Skincare Product

According to several previous studies (Laroche et al., 2001; Han et al., 2009; Han et al., 2011; Roberts, 1996), the term “green” is generally defined as “environmentally friendly”, “nature-friendly”, “eco-friendly”, “environmentally responsible activities”, and “sustainable”.

As depicted by Ottman (1998), such kinds of green products can be stored for a period of time, uses less toxic contaminants, and is produced from recycled components or packaged with limited resources. In other words, a green product contributes to the environmental protection and preservation by minimizing the consumption of energy and resources or reducing the amount of pollution and waste.

With regards to “green skincare products”, Hsu et al. (2017) indicated that “green skincare products” are made from natural extracts instead of artificial ones, as well as not composed of synthetic chemicals. Thus, this guarantees the integrity of the ingredients remains. In conclusion, the similarities of the mentioned studies affirmed that using green skincare products is regarded as a way of life that body-loving self-care with highly environmental consciousness.

### 2.2. Theory of Planned Behavior

The theoretical framework of this research is developed based on the Theory of Planned Behavior (Ajzen, 1991) which is one of the most influential and commonly used theoretical approaches in predicting individual intention and behavior (Rivis et al., 2009; Dean et al., 2012), especially in the field of green behaviors.

According to Ajzen (1991), there are three primary determinants affecting individuals’ behavioral intentions including “attitude”, “subjective norm” and “perceived behavioral control”. As Ajzen (1991) has defined, attitude means “the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question”, subjective norm describes “the perceived social pressure to perform or not to perform the behavior” and the perceived behavioral control is “the individual’s perception of his/her ability to perform the behavior”. In simple terms, it can be interpreted that “attitude” and subjective norm” reveal the perceived desirability of performing a specific behavior, whereas “perceived behavioral control” explains the perceptions of whether that behavior is controllable or not (Ajzen, 1991).

### 2.3. Attitude

Attitude is a personal evaluation that each individual manifest towards a specific object (Fishbein and Ajzen, 1975).

It could be either “positive” or “negative” opinions as specified by these two researchers. Having a favorable or unfavorable attitude, customers and their purchase decisions for products or services are affected by this factor (Engel et al., 2006). Many studies have indicated and recognized attitude as an imperative determinant that guides behavioral intention and actual behavior (Jaiswal & Kant, 2018). In other words, Bredahl (2001) stated that attitude has always been emphasized as one of the major drivers of human behavior. Moreover, Padel and Foster (2005) as well as Tanner and Kast (2003) regarded attitude as a qualified predictor of environmentally friendly behavior. It has been discovered that having a positive attitude towards environmental protection in mind, people have a tendency to buy pro-environmental products (Balderjahn, 1988 and Kotchen & Reiling, 2000). Sharing a similar justification, Kalafatis et al. (1999) revealed that environmental attitudes resulted in intentions to buy green products. It is reported that the more positive attitude an individual has toward a specific behavior, the higher the likelihood he/she would perform the undertaking (Ajzen, 1991). Thus, the hypothesis is proposed as follows:

**H1:** *Attitude exerts a positive impact on customers’ intention to purchase Green Skincare Products.*

### 2.4. Subjective Norm

As Taylor and Todd (1995) indicated, subjective norm refers to the cognizance of each individual under the influence of objective opinions from people who are important to them. Alternatively stated, subjective norm is perceived as an agreement to participate or a refusal to not engage in a situation influenced by the opinion of the society (Coleman et al., 2011). According to Alam and Sayuti (2011), a person’s certain behaviors are motivated with the influence of families, or social groups. In this case, social referents such as close family and friends, relatives, coworkers and business partners can have a significant impact on the buyer (Han et al., 2010). In short, Subjective Norm reflects the perceived pressure from reference groups that motivates individuals to perform a certain behavior (Ajzen, 1991). According to research done by Arli et al. (2018), the tendency of buying green products of customers is affected by the subjective norm. Individuals with more social pressure are more willing to go green, resulting in a greater tendency to spend on green commodities (Arli et al., 2018). In consistency with prior research, the following hypothesis is suggested:

**H2:** *Subjective norm exerts a positive impact on customers’ intention to purchase Green Skincare Products.*

## 2.5. Perceived Behavioral Control

Perceived behavioral control is the perceived difficulty or ease of a person when carrying out an intended behavior, which is “determined by a set of accessible control beliefs” (Ajzen, 1991). Studies from researchers Ajzen (1991) and Taylor and Todd (1995) reported that it refers to one’s perception regarding the approachability to resources such as “money, time, personal self-confidence and other resources” that enable individuals to implement a behavior. As explained by Ajzen (1991), an individual having higher degree of personal control perceives higher incentives to involve in a particular behavior. In simple words, having larger internal personnel capabilities (skills, confidence, planning, and ability) and external resources (time, money) enables individuals to perceive more control which leads to the increase in intention (Ajzen, 1991; Armitage and Conner, 1999; Kidwell and Jewell, 2003). Therefore, the following hypothesis is suggested:

**H3:** *Perceived Behavioral Control exerts a positive impact on customers’ intention to purchase Green Skincare Products.*

## 2.6. Environment Knowledge

Fryxall and Lo (2003) defined “environmental knowledge” as the level of the common knowledge about the natural world and the ecosystems including facts, concepts, and relationships. Besides, this term also concerns the extent to which a person understands regarding environmental issues (Fryxall & Lo, 2003). To put it another way, environment knowledge is known as the literacy regarding to ecological matters, the level of environmental consciousness, a sense of collective responsibilities necessary for preserving the environment for future descendants and ensuring a sustainable development (Conraud-Koellner & Rivas-Tovar, 2009; Mostafa, 2007). With reference to Robert and Bacon (1997), having concerns about the environment induces positive purchase behaviors toward the pro-environmental products. To support this consideration, Tanner and Kast (2003) also yielded a similar opinion. As echoed in prior studies, consumers who have sufficient knowledge on problems associated with the environment have a tendency to show a positive cognition towards eco-friendly products because the environmental information perceived by consumers guides them to prefer green products over conventional ones (Smith & Paladino, 2010; Gilg et al., 2005; Tseng & Hung, 2013; Grankvist & Biel, 2007). Therefore, this research takes eco-literacy into consideration and suggest the third hypothesis as follows:

**H4:** *Environmental Knowledge exerts a positive impact on customers’ intention to purchase Green Skincare Products.*

## 2.7. Purchase Intention

As echoed in several studies, “purchase intention” is defined as the tendency to procure a certain product at a desirable amount or take purchase-related action and is measured by the level of likelihood of purchasing (Mehta, 1994; Howard, 1994). Similarly, Kinnear and Taylor (1987) asserted that “purchase intention” is a subjective inclination to make a purchase of consumers prior to actually carrying on. As mentioned by Fishbein and Ajzen (1975), “purchase intention” is derived from consumers’ evaluations and attitude toward a product and it can be used as an important measurement to anticipate the customers’ purchase behaviors.

## 2.8. Country of Origin

Country of origin is defined as the home country which a manufacturer of a product or brand is cooperated with (Samiee, 1994). Country of origin image refers to the perception of consumers influenced by the country of manufacturer, which could be whether “positive” or “negative” (Cateora & Graham, 1999). In other words, country of origin image is the stereotypical comprehension of users regarding to a country’s representative products or brands (Nagashima, 1970; Roth & Romeo, 1992; Bluemelhuber et al., 2007). With reference to Hanzae and Khosrozadeh (2011), country of origin images contributes considerably to consumers’ impressions towards products and brands from any specific country. As echoed in many studies, it is suggested that the country of origin of a product has a firm impact on customers’ judgment and purchase decisions (Awada & Yiannaka, 2012; Josiassen, 2010; Lee et al., 2013). This perspective was supported by other researchers by confirming that consumers hold different opinions attached to products from different countries, thereby influencing the intention to procure goods of customers. Dobrenova et al. (2015) proved that when buyers have a better positive country of origin image, a critical influence on their intention to buy is recorded. Based on the discussion, the following hypothesis is developed as follow:

**H5:** *Country of origin positively moderates the attitude - purchase intention relation.*

## 2.9. Product Knowledge

Product knowledge refers to individuals’ awareness of particular information of a product (Brucks, 1985). According to Burton et al. (2009), product knowledge is one of the most influential factors in consumer purchase behavior. Similar opinions could be noticed by Chen and Deng (2016). They stated that product knowledge provides a better understanding of the products and enhances customers’ rational assessment,

therefore, product knowledge has a certain effect on the purchase decision making process (Chen and Deng, 2016). As stated by Chang (2015), the dissemination of information positively supports the green purchase intentions. The more product knowledge consumers perceive, the stronger their purchase intention will be due to better understanding of products' function and characteristics. To put it in another way, when consumers have more product knowledge, their purchase considerations are rested on rational thinking instead of feelings or emotions and vice versa. Through the discussion above, the following hypothesis is developed as follows:

*H6: Product Knowledge positively moderates the attitude - purchase intention relation.*

### 3. Research Methods

#### 3.1. Target Population

This research applies a quantitative research approach to manage data with the assistance of statistical tools. With regards to the sampling technique, convenience sampling is used to collect data. As for sample size, in order to achieve adequate and fair findings, a sufficient sample size should be around 200 or 300 (Comrey & Lee, 2013). We surveyed 300 female respondents aged from 18 years old to 39 years old from different demographic backgrounds. In addition, the living location of respondents is restricted within Ho Chi Minh City area. The data is gathered from two sources: primary and secondary data. Primary data is collected by using questionnaires. The questionnaires are delivered to individuals through two forms which are online and printed offline surveys. On the online platform, the survey is disseminated to users on Facebook (a social networking website) through personal pages and public groups. As for the offline channel, questionnaire papers are delivered to students of in-class courses and students who self-study at the library of International University – Vietnam National University, Ho Chi Minh City.

#### 3.2. Measures

The measurement scale is sourced and constructed from intensive literature review including Taylor and Todd (1995), Chan (2001), Trafimow (1994), Fitzmaurice (2005), Lin (2007) and Hsu et al. (2017), Armitage and Conner (1999), Han et al. (2010), Mostafa (2007), Fishbein et al. (1980), Venkatesh and Davis (2000); Kim and Pysarchik (2000); Chan (2001), Glass et al. (1981), Fielding et al. (2008), Gleim et al. (2013).

Once data collection is finished, the examination of demographic analysis is successively conducted. Moreover,

it is essential to implement several testing steps to examine the validity of the measurement scale. This procedure consists of Reliability Test, Exploratory Factor Analysis (EFA), Correlation Analysis. Ultimately, Regression Analysis will be used as the main statistical technique to confirm the proposed hypothesis, with the support of SPSS (Statistical Package for the Social Science).

### 4. Data Analysis and Results

In order to identify background characteristics of customers who have exposure to green skincare products, demographic questions are included in the questionnaire and classified into four categories including age, occupation, level of education and monthly income. Specifically, there are 99.43% of women from 18 to 25 years old taking part in answering the questionnaires meanwhile there are only 0.57% female participants who are 26 to 39 of years old. The main occupation of respondents is 94.57% students while the rest of the percentages are officers, freelancers, and others. Accordingly, the academic level of the majority is college/university (94.57%) whereas high school students and post-graduate students constituted 5.14% and 0.29% respectively. As for monthly income, 88.29% of people earn below 5 million VND per month while 10% of others earn from 5 to 10 million VND a month. Women whose monthly salary from 11 million VND and above reach 1.72%.

The results of reliability analysis are good for all four dependent variables, one independent variable and two moderators.

Regarding Exploratory Factor Analysis, for independent variables, the results are good with KMO = 0.843 > 0.6, Barlett's Test = 0.000 < 0.05, Eigenvalues > 1 and Total Variance Extracted is 70.845%. As for the dependent variable, the results are adequate with KMO = 0.679 > 0.6, Barlett's Test = 0.000 < 0.05, Eigenvalues > 1 and Total Variance Extracted is 69.119%. As for moderating variables, the results are acceptable with KMO = 0.724 > 0.6, Barlett's Test = 0.000 < 0.05, Eigenvalues > 1 and Total Variance Extracted is 69.769%.

Regarding correlation, firstly, the correlation analysis for the basic model which consists of independent variables (attitude, subjective norm, perceived behavioral control, environmental knowledge) and dependent variable (purchase intention) is conducted. The result shows that the sig. values of all factors are 0.000 which is less than 0.01. Hence, there is enough evidence to suggest that the observed correlation does exist in this case. Besides, the Pearson Correlation index of these factors ranges from 0.416 to 0.522 which implies the level of correlations are moderate. Secondly, the correlation analysis for the moderation model including the independent variable (attitude), dependent variable (purchase intention) and moderators (country of origin and product knowledge).

In this case, it is convincing to conclude that the observed correlation does exist in this case since the sig. values of all factors are less than 0.01. In addition, the Pearson Correlation index shows positive figures including 0.287 for the relationship between Country of Origin and Purchase Intention and 0.535 for the relationship between Product Knowledge and Purchase Intention.

After that, Multiple Linear Regression is applied to test the suggested hypotheses. Firstly, the regression analysis for the basic model is conducted. The results show that the R-Squared value is 0.416. This indicates that the independent variables applied in this model could roughly describe 41.6% variance of dependent variable. Meanwhile, the ANOVA figures show a sig value of 0.000 which points out that the research model is significant. Considering the sig values of independent factors in the Coefficients index, all values are less than 0.05 suggesting that four independent factors (Attitude, Subjective Norm, Perceived Behavioral Control) do have impact on the dependent variable (Purchase Intention). In addition, the values of Variance Inflation Factor (VIF) of all factors are less than 2 which appears to be non-problematic when concerning the multicollinearity. Therefore, the linear equation is formed as follows:

$$PI = -0.32 + 0.359 * ATT + 0.226 * SN \\ + 0.237 * PBC + 0.148 * EK$$

Where:

PI: Purchase Intention for Green Skincare Products

ATT: Attitude towards Green Skincare Products

SN: Subjective Norm

PBC: Perceived Behavioral Control

EK: Environmental Knowledge

Based on the result, proposed hypotheses including H1, H2, H3, H4 for the basic model are all supported.

Secondly, the regression analysis for the moderation model is carried out. Based on research contributions of Hayes (2017), this study utilizes a plugin for SPSS called “Andrew Hayes’ Process macro” to carry out multiple regression for the moderating effect. It is worth noticing that the moderator is denoted as W while X and Y are treated as independent and dependent variables respectively. Additionally, the interaction effect is noted as “int\_1”.

As for the moderating effect of Country of Origin, the interaction effect is statistically insignificant since its p-value is .0995. Besides, the value of LLCI and ULCI ranges from -0.0181 to 0.2076 with an existence of “0” in the confidence interval, indicating that interaction effect is not significant. Therefore, Country of Origin does not moderate the effect of Attitude on Purchase Intention. As a result, the hypothesis H5 is not supported.

As for the moderating effect of Product Knowledge, the p-value of “int\_1” is 0.0244 which is less than 0.05,

implying that the interaction effect is statistically significant. Moreover, the confidence interval LLCI and ULCI ranges from 0.0158 to 0.2277 which proves that the interaction effect is significant. Therefore, Product Knowledge is a significant moderator of the effect of Attitude on Purchase Intention. Consequently, the hypothesis H6 is supported.

## 5. Conclusions and Limitations

This research has affirmed the important impact of Attitude, Subjective Norm, Perceived Behavioral Control and Environmental Knowledge on Purchase Intention towards Green Skincare Products as well as the moderating effect of Product Knowledge. Managerial implications can be proposed as follows: companies are recommended to utilize marketing communications to enhance the favorable attitude towards skincare products that are environmentally friendly. Secondly, that additional information and further details should be presented to the customers because the more Product Knowledge consumers have, the higher the probability that people would buy the products. Therefore, manufacturers are encouraged to include eco-labels or verified certification from authority when selling and promoting green skincare products.

Regarding limitation, the study surveyed with a convenient sample, thus, the results cannot be generalized. Second, the measurement scale is adapted from international research, thus may be prone to language errors during translation.

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