Investigating the Perception of Green Products, Consumption Values, and Customer Behavior in the Cosmetics Industry

Jing-Ting Ashley Huang and Hua-Hung Robin Weng*
College of Management, Yuan Ze University, Taiwan
**Corresponding Author: RobinWeng@saturn.yzu.edu.tw*

Received 27 August 2024; received in revised form 8 October 2024; accepted 23 December 2024

Abstract

Due to the sustainability issue and the trend of going green, which has been rising recently, more and more people are becoming concerned about environmental problems. However, no clear standard in the global cosmetic market exists with the terms “green cosmetics,” “natural cosmetics,” and “organic cosmetics.” This research would like to clarify the definition of “green cosmetics” through literature reviews. Furthermore, based on the Consumer Choice Behavior Theory by Sheth and his colleagues (1991), this study would like to investigate the relationship between the perception of green cosmetics and consumption values and understand their impacts on customer behavior.

Through SPSS and AMOS software and 502 valid respondents, this study conducted Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM) to test hypotheses. First, the components of green cosmetics are categorized into three parts, including the natural ingredients, the quality, and the environment-friendly packages of the products. The results show that green cosmetics with natural ingredients and environment-friendly packages significantly and positively impact Social Value, Emotional Value, Epistemic Value, and Conditional Value. The quality of the products has significant and positive impacts on Functional Value, Social Value, and Emotional Value. Both functional and emotional values have significant and positive impacts on customer behavior. This study provides the possible reasons to explain why green cosmetics are not promoted in the cosmetics market.

Keywords: Green cosmetics, consumption value, customer behavior

1. Introduction

In recent years, the topic of environmental conservation and sustainable development has been increasing year by year. Since 1945, the United Nations has proposed the core concepts of maintaining international peace and security, protecting human rights, providing humanitarian assistance, promoting sustainable development, and supporting international law. The purpose is to improve the sustainable development of environmental protection and to assist the lives of people of all ages worldwide (United Nations, 2019). The issues of environmental conservation have been popular around the world. More and more people are beginning to care about issues related to the general public, including the rights of socially disadvantaged groups, the health and education rights of poor women and children in the third world, green energy, and the environment. Therefore, corporate social responsibility is an indispensable activity for today's enterprises. It is necessary to consider the impact on society and the environment under its own economic and operating conditions. However, this issue is not limited to specific industries. Although some industries might find that the core content of sustainability may conflict with their core values, they still use green or organic raw materials to make products while considering their products' effectiveness in implementing sustainable development and environmental conservation issues.

Cheng and her colleagues (2009) pointed out that enterprises can implement “green” in many ways, and the development of green products is closest to consumers. Consumer demands for green products will prompt enterprises or manufacturers to produce green products for customers. This green trend has spread to the cosmetics market in recent years. According to statistics, the global cosmetics market value in 2017 was over USD 500 billion and over TWD 19 billion in Taiwan in 2018, with a continuous growth trend. In Hong Kong, young respondents are more susceptible to "word of mouth" and "price" factors. In contrast, mature respondents are more susceptible to "natural/organic/herbaceous plants" and “high-tech/biotechnology” factors. Men's cosmetics have a strong growth momentum, and the men's beauty products market increased by 6.9% in 2017. More and more male consumers accept skincare products and cosmetics designed for men. Regardless of gender, age, and gender, more people value skin maintenance and beauty. Under the topic of promoting envi-

ronmental protection, green makeup is becoming increasingly popular, and many consumers are aware of toxic makeup care products.

The natural and organic cosmetics in the market have gradually become popular with consumers. In 2016, the volume of cosmetics market transactions in Germany was about EUR 1.15 billion, of which natural and organic cosmetics accounted for 8.5%, indicating more and more people buy natural cosmetics and intense consumer demands for natural cosmetics. Based on the above background, the primary purpose of this research is to explore the relationship between the definition of green cosmetics and Consumption Value and how the Consumption Value affects Customer Behaviors. The definition of green cosmetics has still been ambiguous. Therefore, this study intends to compile international certification standards and specifications for green cosmetics. The purposes of this study are listed below.

1. Clarify the definition and standard of green cosmetics through the literature.
2. Explore the relationship between the definition of green cosmetics and Consumption Value.
3. Explore the relationship between the Consumption Value of green cosmetics and Customer Behavior.

As illustrated in Figure 1, this study aims to investigate the framework of the cosmetics industry.

Figure 1: Research Framework

2. Literature Review

This section is divided into four sub-sections, including definitions of cosmetics, consumption value theory, customer behaviors, and the research model.

2.1 Definitions of Cosmetics

In general, cosmetics refer to the articles for makeup. The English name "cosmetics" is derived from the Greek "kosmetikos," which means to dress up cleverly to become more attractive. The prefix "kosmo" specifies decoration, which indicates promoting one's advantages and covering one's shortcomings. Wimmer (1923) of Columbia University edits the yearbook of the American Pharmaceutical Association, summarizing the purpose of cosmetics: "to make the skin comfortable and to avoid skin diseases, to cover certain defects, to make people beautiful, and to make people clean and tidy." Chang (2016) defines cosmetics as the chemical industry products to apply, rub, or spray on the skin, hair, nails, lips, and mouth. The role of cosmetics is summarized in the following five aspects: cleaning, protection, nutrition, beautification, and prevention.

Green products can be summarized as products with the concept of "recyclable, low pollution, and resource-saving" in the stages of raw material acquisition, manufacturing process, sales, use, and disposal. Peattie (1998) considered that green products contain less environmentally harmful raw materials, the production process relatively reduces the consumption of resources and harmful by-products, and the products can be recycled and reused to reduce the environmental impact. The product, covering the characteristics of recycled materials, reduction of exhaust gas, water and energy reduction, reduction of packaging materials, as well as reduction of toxic substances, are green products (Nimse, Vijayan, Kumar, & Varadarajan, 2007).

Ottman et al. (2006) show that by saving energy and resources and reducing or eliminating toxicants, pollutants, and waste, green products are given the function of protecting or enhancing the natural environment. Green products have more environmentally friendly packaging and contents and less environmentally harmful properties (Elkington, 1994; Wasik, 1996). The features of green products are the use of organically grown or degradable raw materials and the use of no animals in experiments (Schorsch, 1990).

Currently, green and sustainable cosmetic products in the cosmetics industry are generally considered products made from natural and organic raw materials. Using natural oils, plants, and agricultural products reduces many toxic substances to avoid body absorption (Acme-Hardesty, 2019). Because no specific conclusion exists on the definition of green cosmetics, many relevant certification organizations define and verify natural and organic cosmetics. This study sorted out five credible international certification centers, including ECOCERT International Ecological Certification Center, German Natural Organic Certification BDIH, COSMEBIO French Ecology and Organic Maintenance Products Certification Organization, British Soil Association Soil Association, and USDA Organic Certification Program.

According to the associations mentioned above and organizations, the basic concept of the content must be natural or organic ingredients, and certain standards must be passed before they can be identified as "green cosmetics." This study summarizes that green cosmetics may include the following characteristics:

1. The product content must be composed of natural, non-toxic, and non-synthetic raw

materials. The product contains a specific percentage of natural raw materials.
2. The product content contains organic ingredients meeting the specifications of the organic label and over a specific percentage.
3. No animal experiments.
4. The product is not over-packed, and the materials used are recyclable and decomposable.
5. The production processes reduce environmental pollution as much as possible and comply with certain production processes.
6. The ingredients must be clearly marked on the product.

2.2 Consumption Value Theory

Based on Maslow (1970), Katona (Katona & Strümpel, 1971), Katz (1960), and Hanna (1980), Sheth, Newman, and Gross (1991) proposed the market selection behavior of consumers and further established the Consumption Value Theory. This theory explains the main factors that influence consumers to buy specific products.

The Consumption Value Theory is the first value-based consumer behavior model, indicating that market choice is a multi-faceted phenomenon that contains multiple values. Customer choices depend on the values provided by the product or service, which are functional, emotional, social, conditional, and epistemic values.

Sheth and his colleagues (1991) refer to the ability of a product or service to have certain specific functions, utilities, or physical performances obtained through significant functional, utility, or physical attributes and using these attributes to meet consumer demands. The attributes possessed by such products or services can be called Functional Value. According to the economic utility theory proposed by Marshall (1961) and Stigler (1950), Sheth et al. (1991) believe that Functional Value is an important factor for consumers to choose whether to buy, such as price, performance, use, attributes, and guarantees, etc. A product or service with outstanding function, utility, and entity factors will have functional value (Ferber, 1973).

When a product or brand can trigger a consumer's sensory or emotional state, such products have emotional value (Sheth et al., 1991). Emotional value refers to the feelings or emotions, including the positive feelings of joy, loyalty, and satisfaction, as well as the negative feelings of anger, sadness, and fear. For example, some foods can make consumers reflect on their childhood experiences. Some consumers will have a "love relationship" with their cars. It has emotional value as long as its product or brand can touch consumers' emotions or perceptions. Emotions also indirectly affect consumers' conscious or unconscious consumption behavior (Dichter, 1947).

When a brand or a product can connect consumers with a single or multiple specific social groups, thereby enhancing the effectiveness of their brand or product, such products have Social Value. Research found that personal behaviors can be influenced or changed by suggestions from members of social groups (Berger & Webster Jr, 2006). The Social Value is important to consumer choices through interpersonal relationships and information dissemination (Robertson, 1967; Rogers, 1962). When consumers choose products under the influence of social values, they care about whether their products can improve their social status, gain social recognition, meet existing social norms, shape social image, or satisfy internal self-desire (Sheth et al., 1991).

When products under certain conditions may temporarily provide consumers with greater functionality or sociality and attract consumers to buy, such products have conditional value (Sheth et al., 1991). The importance of learning is affected by specific experiences and circumstances (Howard & Sheth, 1969). Attitudes and intentions cannot accurately predict behavior, but contextual factors can be used to investigate the predictive capabilities (Bearden & Woodside, 1977; Belk, 1974; Park, 1976; Sheth, 1973). It also means that consumers will change their original purchase behaviors under certain circumstances, such as price reduction or value increase. However, when these contextual factors disappear, consumers may change their purchase decisions and decide not to buy.

When consumers are curious about a product or brand or want to satisfy their desire for knowledge about the product, such products have Epistemic Value (Sheth et al., 1991). Novelty exploration and diverse search will promote the motivation of product search (Hansen, 1972; Hirschman, 1980; Howard & Sheth, 1969; E. Katz & Lazarsfeld, 1955). Generally, such products are less familiar to consumers or are the latest products on the market. Therefore, it is easier to cause consumers' curiosity, and consumers have a greater interest in this product, prompting consumers to buy non-functional products to satisfy their curiosity.

These five values sort and classify the factors that affect consumers' purchases and understand the consumption values of the customers.

2.3 Customer Behaviors

Cardozo (1965) proposed the term customer satisfaction, meaning that customer sat-

isfaction will affect purchase behavior. Customers who are satisfied with their products or services will increase their repurchase opportunities. Howard and Sheth (1969) defined whether the rewards received by customers for their purchases of products reached a satisfied state of mind. Czepiel et al. (1974) refer to overall satisfaction as a cumulative construct that adds up to the satisfaction of a particular product or service and the satisfaction of different aspects of the organization. Overall, customer satisfaction refers to the overall experience of consumers in purchasing and consuming a product or service and the overall evaluation over time (Anderson, Fornell, & Lehmann, 1994)

Robertson et al. (1986) and Dodds et al. (1991) define that repurchase willingness represents the consumer's commitment and possibility of repeat purchases for a particular brand and product (Dodds, Monroe, & Grewal, 1991; Robertson & Gatignon, 1986). Repurchase willingness refers to the tendency of consumers to want to consume products or services that have previous consumption experience, which is the psychological commitment of customers to the product or service (Selnes, 1993). Oliver (1999) argues that the promise of repurchasing only for a particular brand or product is similar to "goodwill."

Jones and Sasser (1995) believe that short- or long-term customer loyalty refers to the customer's willingness and sympathy to repurchase a product or service. Long-term loyalty refers to customers who will not easily change their choices, and short-term loyalty is the opposite; customers change their choices when they find better products or services. Fornell (1992) believes that customer loyalty means that after customers purchase and use the products or services, if they are satisfied, they will have a great opportunity to buy again and share with relatives and friends. Morrison and Crane (2007) point out that consumers' emotions play an important role in brand choice, consumption, and continuous loyalty, and they propose that service and sales staff can create a deeper emotion between consumers and brands.

2.4 Research Model

The research model of this study is illustrated in Figure 2.

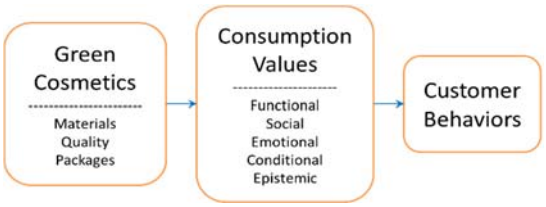

Figure 2: Research Model

In recent years, consumers who use green cosmetics have been paying more and more attention to the safety and naturalness of cosmetic ingredients and demand to reduce the use of chemical ingredients. Product quality affects consumers' willingness to buy (Jiao, 2017; Liou, 2016). Consumers usually consider green cosmetics healthier and safer than traditional ones (Hall, 2008; Pearson & Henryks, 2008). Although consumers might not be familiar with green labels, they will consider their health and self-interest in buying green beauty products (Cervellon & Carey, 2011). When customers emphasize the proposal of green products, they will actively support green attitudes and further increase their purchase of green products (Peng, 2003). In addition, products with eco-friendly materials will have a positive and significant impact on brand images and further increase customer willingness to use green products (Huang, 2012). Based on the above literature, this study established the following hypotheses.

Hypothesis 1: Natural Materials have positive and significant impacts on (a) Functional Value, (b) Social Value, (c) Emotional Value, (d) Conditional Value, & (e) Epistemic Value.

Hypothesis 2: Quality has positive and significant impacts on (a) Functional Value, (b) Social Value, (c) Emotional Value, (d) Conditional Value, & (e) Epistemic Value.

Hypothesis 3: Eco-Friendly Package has positive and significant impacts on (a) Functional Value, (b) Social Value, (c) Emotional Value, (d) Conditional Value, & (e) Epistemic Value.

According to Sheth and colleagues (1991), functional value is the most important factor for consumers when deciding whether or not to buy. Product characteristics such as price, performance, use, attributes, and guarantees are considered to determine a product's purchase behavior. The research found that consumers' cognitive benefits of environmentally friendly cosmetics include social value, emotional value, and quality value, as well as personal norms (Lee, 2009). Emotional value refers to the sensory function that consumers obtain from products. Quality value refers to the consumer's function based on the perception of quality and expected performance. Purchasing green products is considered by some consumers as a form of conspicuous consumption (Cervellon & Carey, 2011). Prices influence consumers' decisions to buy green products (Boztepe, 2012; Braimah, 2015). The ease of obtaining green products will affect consumers' purchase intentions (Biswas & Roy, 2015; Lin & Huang, 2012). Product quality, service quality, price, contextual factors, and personal factors all af-

fect customer satisfaction (Zeithaml, Bitner, & Gremler, 1996). Based on the above literature, this study established the following hypotheses.

Hypothesis 4: Functional Value has positive and significant impacts on Customer Behaviors.

Hypothesis 5: Social Value has positive and significant impacts on Customer Behaviors.

Hypothesis 6: Emotional Value has positive and significant impacts on Customer Behaviors.

Hypothesis 7: Conditional Value has positive and significant impacts on Customer Behaviors.

Hypothesis 8: Epistemic Value has positive and significant impacts on Customer Behaviors.

3. Methodology

This study conducted an online questionnaire for the samples of consumers who have used and purchased cosmetics before. The online questionnaires can be collected quickly, and no significant differences exist between early and late respondents. Collecting data through low-cost online questionnaires makes it easier to effectively control the research topics (Kaye & Johnson, 1999). Regarding questionnaire design, web questionnaires are much richer in layout design features than email questionnaires can provide—for example, colors, interactive effects, graphics, page jumps, etc. (Dillman, 2000). The information in the survey should be widely published on various websites to diversify the samples, and the survey should provide incentives to increase both the response rate and the number of samples (Kaye & Johnson, 1999).

This research uses the SurveyMonkey (https://www.surveymonkey.com) platform as a survey tool for sample collection through different channels, including the PTT Beauty section, the Dcard Beauty section, and the personal Line group. The respondents have the chance to earn one thousand gift cards. The questionnaire was distributed for a week from March 21 to March 27, and the incomplete answers are regarded as invalid responses. A total of 817 samples were collected, and 315 invalid ones were deleted. The total number of valid questionnaires was 502, and the effective rate was 61.44%.

This questionnaire has four parts with nine constructs. Each construct has five questions measured by 5 points on the Likert scale from "Strongly Agree," "Agree," "Neutral," "Disagree," and "Strongly Disagree." The first part is the basic information of the respondent, and the second part is related to green cosmetics. The third part has questions about consumption values, while the last part concerns customer behaviors. Detailed information on the survey can be requested by contacting the corresponding author.

This study uses SPSS and AMOS for analysis, including Descriptive Statistics, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM).

4. Results and Analysis

This section is divided into five sub-sections, including Demographics, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Structural Equation Modeling (SEM), and the results of hypothesis testing.

4.1 Demographics

In the valid 502 data points, only 46 respondents (9.2%) are male, while 456 (90.8%) are female. Considering the ages, most respondents are between 20 and 29, accounting for 69.5%. More than 90% of respondents have a college education level. About 55% of the respondents have the experience of using green cosmetics. The detailed information is listed in Table 1.

Table 1: Demographics

		Male		Female	
Items	**Categories**	**Count**	**%**	**Count**	**%**
Gender		46	100.0	456	100.0
Age	<=19	0	0	42	9.21
	20~29	8	17.39	341	74.78
	30~39	26	56.52	50	10.96
	>=40	12	26.09	23	5.05
Education	High School or Below	0	0	30	6.58
	College	19	41.30	346	75.87
	Graduate School	27	58.70	80	17.55
Profession	Students	2	4.35	206	45.17
	Services	12	26.09	61	13.38
	Commerce	1	2.17	50	10.96
	Military Personnel, Civil Servants, and Teachers	0	0	37	8.11
	Others	31	67.39	102	22.38

Items	Categories	Male		Female	
		Count	%	Count	%
Use Before	Yes	38	82.60	237	51.97
	No	8	17.40	219	48.03
Cosmetics	<=5	9	19.57	140	30.70
Purchase	6~10	1	2.17	146	32.02
Yearly	11~15	24	52.18	66	14.48
Frequency	16~20	12	26.08	36	7.89
	>=21	0	0	68	14.91

4.2 Exploratory Factor Analysis (EFA)

This study uses EFA to analyze the features of green cosmetics. Through the analysis, we find that three constructs stand out. These constructs are named natural materials, quality, and Eco-Friendly Package. While six questions are related to natural materials, four questions are for both quality and package constructs. Table 2 illustrates the loadings after rotating the axes.

Table 2: Loadings After Rotating the Axes

Items	P1	P2	P3	Items	P1	P2	P3
IN1	.728			QA3			.695
IN2	.732			QA4			.772
IN3	.665			QA5			.811
IN4	.711			PA1		.791	
IN5	.619			PA2		.824	
IN6	.606			PA3		.816	
QA1			.764	PA4		.689	

Through EFA, we also find five constructs for consumption values, including functional, social, emotional, epistemic, and conditional values. After EFA, 42 questions are separated into nine constructs and listed in Table 3.

Table 3 Constructs and Numbers of Questions

Construct	Numbers of Questions	Construct	Numbers of Questions
Natural Materials	6 questions	Emotional Value	4 questions
Product Quality	4 questions	Conditional Value	4 questions
Eco-Friendly Package	4 questions	Epistemic Value	5 questions
Functional Value	5 questions	Customer Behaviors	5 questions
Social Value	5 questions	Total	42 questions

4.3 Confirmatory Factor Analysis (CFA)

By CFA, this study analyzes the reliability and validity of the constructs. After deleting some questions, we found that our constructs have good reliability and validity with CR greater than 0.7 and AVE greater than 0.5. Table 4 shows the fit indexes in Green Cosmetics and Consumption Values, while Table 5 indicates the reliability information.

Table 4: Fit Index

Index	Green Cosmetics		Consumption Values		Suggested Thresholds
	Before	After	Before	After	
GFI	0.91	0.94	0.77	0.88	≥0.8
CFI	0.92	0.95	0.79	0.90	≥0.9
RMSEA	0.083	0.065	0.095	0.077	≤0.08

Table 5: Reliability

Constructs	Cronbach's α	CR	AVE	Constructs	Cronbach's α	CR	AVE
Natural Materials	0.781	0.799	0.503	Social Value	0.874	0.868	0.624
Product Quality	0.791	0.803	0.511	Emotional Value	0.860	0.861	0.756
Eco-Friendly Package	0.865	0.868	0.767	Conditional Value	0.765	0.773	0.537
Functional Value	0.821	0.826	0.544	Epistemic Value	0.733	0.762	0.530

4.4 Structural Equation Modeling (SEM)

Last, SEM is used to evaluate the relationships between constructs. Using AMOS, we find that both Natural Materials and Eco-Friendly Package influence all Consumption Values except Functional Value, while Quality impacts 3 Consumption Values, in-

cluding Functional, Social, and Emotional values. Also, only Functional and Emotional Values influence Customer Behaviors. Figure 3 illustrates the SEM of this study, with solid lines indicating significant and positive impacts and dashed lines showing insignificant impacts.

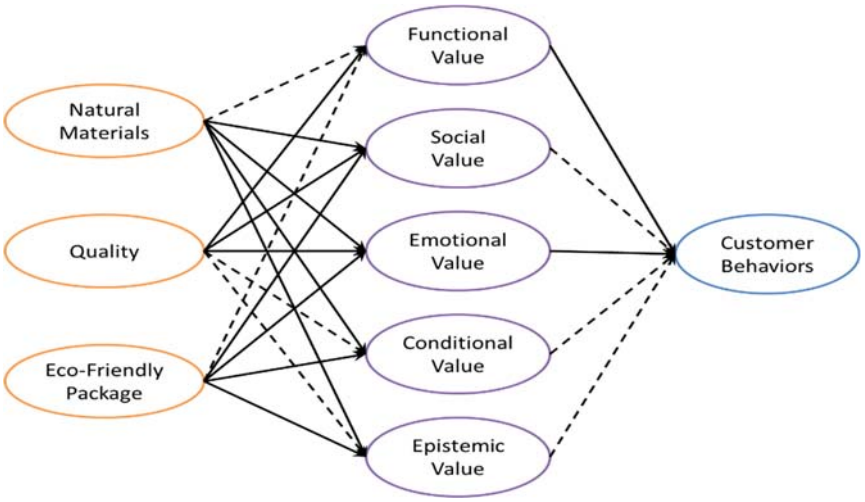

Figure 3: Structural Equation Model

4.5 Results of Hypothesis Testing

This sub-section describes the result of hypothesis testing, and all hypotheses are listed in Table 6. As shown below, most hypotheses are supported by the data.

Table 6: Results of Hypothesis Testing

Hypothesis	Coefficient	Significant	Hypothesis	Coefficient	Significant
H1a	-0.016	No	H3a	-0.026	No
H1b	0.189*	Yes	H3b	0.136*	Yes
H1c	0.515***	Yes	H3c	0.356***	Yes
H1d	0.364***	Yes	H3d	0.346***	Yes
H1e	0.460***	Yes	H3e	0.188*	Yes
H2a	0.902***	Yes	H4	1.048***	Yes
H2b	0.583***	Yes	H5	-0.061	No
H2c	0.247***	Yes	H6	0.106*	Yes
H2d	-0.016	No	H7	-0.072	No
H2e	0.066	No	H8	0.013	No

Note: *→p<0.05; **→p<0.01; ***→p<0.001

This study found that natural cosmetics materials can have positive and significant impacts on Social, Emotional, Conditional, and Epistemic Values. The results show that using cosmetics with natural materials indicates that the users are responsible for the environment and caring for animals with good images that society can accept. In addition, cosmetics with natural materials have been offered in recent years, so they are novel and full of freshness. On the contrary, the results show that natural materials do not significantly impact Functional Value. Although the product is composed of natural and non-toxic ingredients, its product function may not be better than that of general products or meet customer needs.

Next, the study found that the Product Quality of green cosmetics will positively and significantly affect Functional, Social, and Emotional Values. The results show that cosmetics of good quality won't influence human beings, make customers comfortable, and show that the users have good taste in life. On the contrary, the research results show that quality has no significant impact on conditional and epistemic values, indicating that the quality of cosmetics doesn't show that the cosmetics are new or sold under certain circumstances, including sales or promotions.

Like the natural materials in green cosmetics, the Eco-Friendly Package has positive and significant impacts on Social, Emotional, Conditional, and Epistemic Values but not on Functional Value. The results show that the Eco-Friendly Package can show that the users are friendly to the environment and have high personal morality. Also, the Eco-Friendly Package can trigger customer curiosity. However, the package won't influence the function of the cosmetics so that it won't impact Functional Value.

Considering the impact of Consumption Values on Customer Behaviors, the study shows that only Functional and Emotional Values have a positive and significant influence on Customer Behaviors. The results indicate that Functional Value is an important factor influencing customer purchase behaviors, similar to past research (Sheth et al., 1991). In addition, the results show that customer emotion could affect consumer consumption behaviors (Dichter, 1947). On the contrary, Social, Conditional, and Epistemic Values do not impact Customer Behaviors. Past research also found that customers won't consider other people's impressions when purchasing cosmetics (Wen, 2007). No significant impact of Conditional and Epistemic Values indicates that customers won't purchase cosmetics because the cosmetics are new, have customization services, or the cosmetics companies hold activities for public welfare.

5. Conclusions

According to the results, we find that the Natural Materials and Eco-Friendly Package of the cosmetics will influence Social, Emotional, Conditional, and Epistemic Values. In contrast, the Quality of the cosmetics will have impacts on Functional, Social, and Emotional values. In addition, only Functional and Emotional Values will influence Customer Behaviors. Analyzing the indirect effects, we also find that only the Quality of the cosmetics influences Customer Behaviors, suggesting that cosmetics companies focus only on the quality of their products because customers don't care about the materials and packages of cosmetics. The results of this study also show that green cosmetics cannot attract most customers if they focus only on materials and packages. Quality is still the primary factor in the cosmetics industry. The primary limitation of this research is the group of respondents; more than 90% have a college education level or above. Because we use a convenient online survey, we might exclude some customers who seldom use the Internet. Future research can collect data from consumers with different education levels through different survey methods. In the future, researchers could investigate the detailed elements in green cosmetics, including packaging parts or ingredients.

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About Authors

Jing-Ting Ashley Huang, MBA from Yuan Ze University, Taiwan, is a Supply Chain Program Manager at Google and is responsible for commodity planning and procurement. Her expertise lies in optimizing global supply chain processes and driving operational excellence.

Hua-Hung Robin Weng, PhD in Management from Clemson University, South Carolina, USA, is an Associate Professor of International Business at Yuan Ze University, Taiwan. His research explores Green Service, Service Operations, and Sustainability, emphasizing innovative strategies for sustainable business practices.