

Research of Female Consumer Behavior in Cosmetics Market Case Study of Female Consumers in Hsinchu Area Taiwan

Chang-Tzu Chiang, Wan-Chen Yu

Department of Business Administration, Yuanpei University, Hsinchu, Taiwan, China.

E-mail: wanchen1110@hotmail.com

Received July 17th, 2010; revised August 16th, 2010; accepted September 27th, 2010.

ABSTRACT

The rapidly changing social situation in the latter part of the 20th century, such as revolutionary movement for women's equal rights, significantly affects the women consumer behaviors as well as improves their social status. The awakening of female consumer's consciousness during the recent years leads to alteration of consumer behavior, and influences the women's usual conception for pursuing fashion and cosmetics application, in fact, the makeup practice has already been regarded as a social politeness and necessary requirement for interpersonal activities. By employing the Means-End Chain theory, this study intends to explore the attribute, result, and value attached importance by female consumer towards cosmetic products, in order to realize consumer's cosmetics application process. The female consumers in Hsinchu are taken as research targets for this study to conduct variable analysis of their lifestyle and demographic statistics. Totally 550 questionnaires were released and 390 copies are effective among the retrieved ones. Methods as factor analysis and ANOVA are applied for examining various study hypotheses. Moreover, the implementation of Means-End Chain theory allows cosmetics industry to better understand the signification of product attribute valued by consumers so as to anticipate the details of consumer result and value recognition experienced by consumers.

Keywords: *Lifestyle Variable, Demographic Statistics Variable, Product Attribute, Mean-End Chain, Consumer Behavior*

1. Introduction

The rapidly changing social situation in the latter part of the 20th century, such as revolutionary movement for women's equal rights, significantly affects the women consumer behaviors as well as improves their social status. The female consumers hold a different view about applying cosmetics ever since, in other words, they consider wearing cosmetics not only for enhancing self-confidence but also is a form to express social politeness. According to the data provided by Industrial Technology Research Institute, as much as US\$ 0.1548 billion is worth the global cosmetics market in 2001, and the sum is expected to soar to US\$0.1817 billion in 2008 (*i.e.*, NT\$ 6.3595 billion) [1]. As indicated in the World Market for Cosmetics and Toiletries, a comprehensive analysis of the cosmetics and toiletries market offered by Euro monitor International in June 2007, covering 52 countries of global 95% GDP, and the global market size is expected to reach US\$ 0.23 billion in 2009, while Asia

would become the largest cosmetics market in the whole world from 2011 to 2013. In the meantime, the lifestyle and taste for fashion of women consumers will turn to far more diversified along with the constant market expansion. Lifestyle is definitely an important factor for studying consumer behavior; according to the lifestyle concept presented by Lazer [2], the lifestyle concept may facilitate revealing the potential consumer behavior, in addition, the Means-End Chain (MEC) offered by Gutman [3], the theory the most used for analyzing the association between product and customer in the marketing documentation. The major methods for measuring lifestyle frequently used in the market at present include Values and Lifestyle Survey (VALS) and AIO scale (Activity, Interests, Opinion Inventory). The Means-End Chain (MEC) theory presented by Gutman [3], is extensively applied for exploring consumer behavior, and explicitly defining the structure among three levels, namely, product attributes, purchase result, as well as outcome produced by individual value. The theory is based on the

final value status desired by value concept of consumer behavior, not only for determining which benefit perception among benefit variables of a certain product could better satisfy the value demand of consumer, but also for assisting manufacturer to recognize the benefit characteristics provided by various products fabricated, in order to reach the sales volume target and realize which type of product or service can best satisfy consumer demands. Since the majority of cosmetics customers are female, who are therefore the target interviewees of questionnaire designed by this study, besides, the association between different lifestyle and product attribute, result and final value would be further investigated.

2. Empirical Study

By taking several factors into account, such as limited manpower, budget and time, this study adopts Random sampling strategy, with the support of classmates and relatives, the survey was conducted at some majors cosmetics distributions channels in Hsinchu city, such as special counter in department store and drug & cosmetics chain store. The questionnaires were filled out by female consumers qualified for random sampling. Totally 550 questionnaires were released and 525 were retrieved, after eliminating 35 copies with incomplete responses and 100 copies replied by interviewees by checking both working and residential locations outside of Hsinchu city, the retrieved effective questionnaires are 390 copies (70.9%). The main research variables defined by this study contain five dimensions: lifestyle of consumer, product attribute, result of using, personal value, and demographic statistics. The questionnaire survey is employed by this study as research tool, the structured questionnaire technique is used for survey design, and five-point Likert scale is used for interviewees to check the appropriate answer. The hypotheses of this study are based on the comparison of consumers of different lifestyle, supposing the cosmetics consumer behavior would be affected by lifestyle and demographic statistics, even further influence the overall structure. The major hypotheses presented by this study are given as follows:

Hypothesis 1 (H₁): There is significant difference between consumers of different lifestyle in each attribute.

H_{1.1}: There is significant difference between consumers of different lifestyle in attribute (tangible).

H_{1.2}: There is significant difference between consumers of different lifestyle in attribute (intangible).

Hypothesis 2 (H₂): There is significant difference between consumers of different lifestyle in each result.

H_{2.1}: There is significant difference between consumers of different lifestyle in result (functionality).

H_{2.2}: There is significant difference between consumers of different lifestyle in result (psycho-social nature).

Hypothesis 3 (H₃): There is significant difference between consumers of different lifestyle in each value.

H_{3.1}: There is significant difference between consumers of different lifestyle in value (self-respect).

H_{3.2}: There is significant difference between consumers of different lifestyle in value (self-satisfaction).

H_{3.3}: There is significant difference between consumers of different lifestyle in value (excitement).

H_{3.4}: There is significant difference between consumers of different lifestyle in value (sense of accomplishment).

H_{3.5}: There is significant difference between consumers of different lifestyle in value (fun and enjoyment).

H_{3.6}: There is significant difference between consumers of different lifestyle in value (warm relations with others).

H_{3.7}: There is significant difference between consumers of different lifestyle in value (sense of belonging).

H_{3.8}: There is significant difference between consumers of different lifestyle in value (security).

H_{3.9}: There is significant difference between consumers of different lifestyle in value (reverence).

Hypothesis 4 (H₄): There is significant difference between consumers with different demographic variables in valued product attribute - value - result.

H_{4.1}: There is significant difference between women of different age in valued product attribute.

H_{4.2}: There is significant difference between women of different marital status in valued product attribute.

H_{4.3}: There is significant difference between women with different education degree in valued product attribute.

H_{4.4}: There is significant difference between women with different occupation in valued product attribute.

H_{4.5}: There is significant difference between women with different monthly income in valued product attribute.

H_{4.6}: There is significant difference between women with different monthly budget on non-necessities expenses in valued product attribute.

H_{4.7}: There is significant difference between women with different monthly budget for purchasing cosmetics in valued product attribute.

H_{4.8}: There is significant difference between women different in age started to use skin care product in valued product attribute.

H_{4.9}: There is significant difference between women different in age started to apply color cosmetics in valued product attribute.

H_{4.10}: There is significant difference between women with different shopping information sources in valued product attribute.

A pre-test was carried out before officially releasing

the questionnaire designed by this study. For applying the pre-test on samples, 30 interviewees were asked to fill out the pre-test questionnaire, and to write down any inappropriate contents required to be corrected, such as phrases not colloquial enough or the inexplicit meanings, hence all the interviewees fully understanding the question items of official questionnaire will be allowed to check the appropriate answer with certainty. Based on the pre-test questionnaires retrieved, this paper performed SPSS statistics software for reliability analysis, and verified the internal consistency with Cronbach's α value. The overall reliability achieved 0.67 (**Table 1**), proving this questionnaire has consistency and with reliability within acceptable range, besides, the reliability after removing each question item has not increased significantly, this study thus did not eliminate any question item, the questionnaire was therefore ready to be released. The general reliability measurement is most frequently used for examining the internal consistency of questionnaire, the consistency and stability value of measurement result are Cronbach's α coefficient, the higher Cronbach's α coefficient is, the higher consistency of variables to be measured exists between each question item will be, indicating the high reliability of question items in questionnaire. The Cronbach's α coefficient presented by Guilford (1965) is supposed to be higher than 0.70, the coefficient between 0.70 - 0.35 is acceptable, but the value under 0.35 should be dropped. Moreover, Churchill (1995) suggests eliminating question item with correlation coefficient of total single item under 0.50 for improving Cronbach's α coefficient and ensuring the reliability quality of question item.

This study uses SPSS statistical software as analytical research tool, to statistically analyze the coded information in the database for producing statistical analysis report; the analysis items of this paper are descriptive statistics, reliability analysis, factor analysis, and variance analysis, the details are listed as follows:

1) Descriptive Statistics

Analyze the mean, standard deviation, and percentage of variables through descriptive statistics method, for directing an initial generalized analysis and identifying the sample structure of this study.

2) Reliability Analysis

The most frequently used domestically – Cronbach's α coefficient is employed by this study for examining the

internal consistency. Cronbach's α coefficient over 0.7 means high reliability, 0.7-0.35 is acceptable, and under 0.35 is classified as low reliability. Nevertheless, Cronbach's α coefficient higher than 0.65 is adopted by this study as standard for reliability analysis of questionnaire scale.

3) Factor Analysis

The factor analysis carried out by this study was focusing on lifestyle, attribute, result, and personal value. The factors obtained through major component analysis, for extracting factor with eigenvalue over 1 as standard, then select appropriate numbers in accordance with the requirement of this study, followed by orthogonal rotation with the maximum variation, in order to make structure of each factor be more explicit.

4) Variance Analysis

The main purpose of this study is to identify if there is significant difference between different lifestyles in attribute and structure, and analyze if significant different shown on consumers with different lifestyle, different attribute, and different result in demographic statistics.

3. Empirical Result

This paper analyzes the effective samples; the NT\$1000-3000 takes the largest proportion as monthly expenses on non-necessities - 40%, the monthly budget for purchasing cosmetics is mostly under 3000, among others, 1000-3000 is at the top place with 53.6%, followed by less than 1000 (41%), while 5000-7000 takes only 0.5%. As to age started to use skin care products, the majority of interviewees, 57.5%, began under 18 years old, next one is 19-25 with 38.2%; the most respondents started to apply color cosmetics are at the age between 19-25 (58.7%) followed by 36.9%, women under 18, indicating that the group of applying skin care products and color cosmetics are relatively younger. By categorizing the age of female consumers, the cosmetics users are relatively of lower age, most of them are students, with quite low income, but manifest higher willingness of using toiletries and color cosmetics. Numerous shopping information sources are accessible to consumers, according to the data collected, female consumers acquire information through various channels, television is the main source by 26.7%, followed by DM advertisement by 25.9%, and the third one is newspaper and magazine.

The Cronbach's α reliability coefficient value and variances extracted are used for measuring the internal consistency of questionnaire. The Cronbach's α reliability coefficient value obtained from overall analysis of lifestyle, product attribute, benefit (result) and value reached as high as 0.706 (**Table 2**), proving the reliability of this questionnaire.

Table 1. Overall reliability of pre-test questionnaire.

Cronbach's α value	Number of Item
0.673	120

Table 2. Overall reliability of official questionnaire.

Cronbach's α value	Item Numbers
0.706	120

This study selects factor loading with absolute value over 0.5, eigenvalue greater than 1, and cumulative explained variance over 50%, as criteria of factor extraction, and a name will be given accordingly. After shaft analysis, six lifestyle factor dimensions were extracted from the result, the shaft cumulative explained variance reached 52.928%, and the names given are: "active consumers, traditional consumer, enthusiastic consumer, impulsive consumers, practical consumer, and cautious consumer". As to product attributes dimension, 2 product dimensions were obtained from factor extraction result, and the names designated are tangible and intangible based on variable explained by each factor. As to the benefit (result) dimension, 2 result dimensions were obtained through factor analysis, according to variable value explained by each factor, the dimension names extracted from benefit (result) are functionality and psycho-social nature. In terms of value dimension, 9 values were extracted through factor analysis, in accordance with variable value explained by each factor, the benefit (result) dimension extracted were obtained, and the names assigned are self respect, self-satisfaction, excitement, sense of accomplishment, fun and enjoyment, warm relations with others, sense of belonging, security, and reverence.

Between consumers of different lifestyle in tangible value and intangible value of product, the results of ANOVA test are listed in **Table 3**; all the significant values are less than 0.005, indicating there is significant difference shown by consumers with different lifestyle while purchasing cosmetics due to tangible value and intangible value of product. This study accepts consequently the hypothesis 1, there is significant difference between consumers of different lifestyle in each attributes.

Between consumers of different lifestyle in functionality result and psycho-social nature, the ANOVA test shows in **Table 4**, the significant value is always less than 0.005, proving there is significant difference while

consumers of different lifestyle in purchasing cosmetics caused by product functionality and psycho-social nature. This study thus accepts the hypothesis 2, there is significant difference between consumers of different lifestyle in each result.

The ANOVA test of between consumers of different lifestyle in the value provided by product, including self-respect, self-satisfaction, excitement, sense of accomplishment, fun and enjoyment, warm relations with others, sense of belonging, security, and reverence, as shown in **Table 5**, most significant value is less than 0.005, signifying consumers of various lifestyle are different in purchasing cosmetic owing to different value of product; while significant value is 0.160 for active consumers towards security value, showing there is no significant difference between active consumers in if the product provides security value. As a whole, this study accepts the hypothesis 3, there is significant difference between consumers of different lifestyle in each value.

The ANOVA is made on demographic statistics to product attributes, product result, and product value. As indicated in **Table 6**, the product attributes, product result, and product value will not be varied due to the difference in age, marital status, education degree, occupation, monthly income, monthly spending on non-necessities, monthly budget for cosmetics, age started to use skin care products, age started to apply color cosmetics, and shopping information. This study rejects therefore the hypothesis 4, as there is no significant difference in product attributes - value - result valued by consumers of different demographic statistics variables.

4. Conclusions and Recommendation

This study was designed with questionnaires for surveying cosmetics consumers in Hsinchu area market as research targets, through factor analyzing, six types of female consumers are classified, specifically, "active consumer", "traditional consumer", "enthusiastic consumer", "impulsive consumer", "practical consumer", and "cautious consumer", moreover, variable analysis was conducted for investigating the difference of each demo-graphic variables in product attributes-result-value. According to the

Table 3. ANOVA of lifestyle in product attributes.

product dimensions lifestyle factor	tangible		intangible	
	F	P	F	P
active consumers	31.835	0.0001	20.023	0.0001
traditional consumer	68.714	0.0001	11.939	0.0001
enthusiastic consumer	11.562	0.0001	35.068	0.0001
impulsive consumers	26.984	0.0001	21.511	0.0001
practical consumer	23.242	0.0001	22.177	0.0001
cautious consume	5.479	0.0001	18.494	0.0001

Table 4. ANOVA of lifestyle to product result.

product result lifestyle factor	functionality		psycho-social nature	
	F	P	F	P
active consumers	14.795	0.0001	10.454	0.0001
traditional consumer	47.259	0.0001	66.638	0.0001
enthusiastic consumer	4.244	0.0001	13.208	0.0001
impulsive consumers	91.389	0.0001	28.287	0.0001
practical consumer	50.755	0.0001	37.581	0.0001
cautious consume	27.622	0.0001	7.933	0.0001

Table 5. ANOVA of lifestyle to product value.

Lifestyle factor		active con- sumers	traditional consumer	enthusiastic consumer	impulsive consumers	practical consumer	cautious con- sume
self-respect	F	23.163	8.573	29.398	27.970	29.977	28.577
	P	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
self-satisfaction	F	9.308	7.532	12.345	12.824	30.126	6.896
	P	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
excitement	F	31.131	14.340	4.946	30.667	15.648	20.041
	P	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
sense of accomplishment	F	8.331	25.706	17.017	18.474	27.692	21.848
	P	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
fun and enjoyment	F	9.707	8.166	28.491	15.019	31.521	5.835
	P	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
warm relations with others	F	8.429	21.257	27.893	12.871	36.274	33.355
	P	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
sense of belonging	F	10.175	4.436	7.948	29.522	17.766	16.911
	P	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
security	F	1.730	7.006	6.141	16.889	29.156	21.824
	P	0.160	0.0001	0.0001	0.0001	0.0001	0.0001
reverence	F	38.565	18.179	7.279	9.978	21.079	44.365
	P	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Table 6. Analysis of demographic variance.

Demographic Variance		Attributes	Consequences	Value
age	F	2.397	0.786	1.582
	p	0.050	0.535	0.178
marital status	T	0.691	-0.116	0.293
	p	0.490	0.908	0.770
education degree	F	0.112	0.775	0.497
	p	0.953	0.508	0.684
occupation	F	1.223	0.469	1.290
	p	0.289	0.857	0.254
monthly income	F	2.430	0.320	0.577
	p	0.035	0.901	0.718
monthly spending on non-necessities	F	0.468	1.125	0.192
	p	0.760	0.344	0.942
monthly budget for cosmetics	F	1.557	0.733	0.418
	p	0.043	0.533	0.740
age started to use skin care products	F	0.580	0.623	1.048
	p	0.628	0.601	0.371
age started to apply color cosmetics	F	0.887	0.044	4.357
	p	0.448	0.988	0.006
shopping information	F	3.595	1.075	2.364
	p	.007	0.369	0.053

finding of this study, significant difference is shown between consumers of different lifestyle towards attribute, result, and value. While the product attribute - result - value attached importance by consumers of different

demographic variance will not vary on account of age, education degree, occupation, marital status, and shopping information sources. Finally, this study suggests that future researchers may try to expand the population

and perform sampling and comparison between different metropolitan areas; the cosmetics industry is supposed to better understand the expectation put forward by cosmetics consumers as well as the significance of the value, so as to use it as reference in product manufacturing and marketing development. As to the analytic data demographic variables, lifestyle, and value, could assist cosmetics industry in designing the future marketing strategies.

REFERENCES

- [1] K. S. Zhao and X. M. Zhang, "Cosmetics Chemistry," Wunan Publisher, Taipei, 2006.
- [2] W. Lazer, "Life style Concepts and Marketing toward Scientific Marketing, Stephen Cresysered," AMA, Chicago, 1963.
- [3] J. Gutman, "A Means-End Chain Model Based on consumer Categorization Processes," *Journal of Marketing*, Vol. 46, No. 2, 1982, pp. 60-72.