

Full Length Research Paper

Statistical analysis for consumers' intentions of purchasing cosmetics

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Due to the promotion of better standards of living and higher life expectations, cosmetics have been used more day by day. Nowadays, Taiwan's Ministry of Economic Affairs is bent on placing the industry in a strategic position for the development of cosmetics prospects. This is a low pollution and high additional value industry, so it has been included in the main implementation properties by the government of Taiwan. In recent years, competition in the Taiwan cosmetics industry has become intense. This study seeks to investigate the relationship between brand equity, relationship quality, perceived risk and customer loyalty for female customers who often buy cosmetics. A questionnaire survey and statistical analysis were employed in this investigation in order to understand the meaning of management and in drafting suggestions for marketing strategies.

Key words: Brand equity, relationship quality, perceived risk, customer loyalty.

INTRODUCTION

In a traditional agricultural society, buying of cosmetics is a luxurious behavior. Nowadays, usage of cosmetics is an important experience in live arts and leadership fashion for modern females. The whole cosmetics market is not growing on a daily basis, but has reached the level of vigorous development. According to the data provided by Industrial Technology Research Institute of Taiwan, the market of cosmetics is about 56,500,000,000 NT dollars in 2002. The cosmetics industry is also included in the main properties implemented by the government. The Society of Cosmetic Scientists of the Republic of China joined the International Federation of Societies of Cosmetic Chemists (IFSCC) in September, 1988, and became the 28th member nation. It establishes the good foundation and support for the Republic of China towards success.

In an intensely competitive market, how to acquire consumers' favor and stand out for enterprises becomes a very important issue for every consumer market. In the early periods, prices of cosmetics are taken into account

for consumer demand. To meet this demand, entrepreneurs often neglected other factors that can influence consumers to buy their products. Nowadays, as consumers think of purchasing one product, they see not only the product's value, but also its added value. For instance, consumers tend to look at things like: whether sellers' service attitude and brand image are excellent or not; whether the complete awareness of a brand adds to its value or not; whether cosmetics purchased by female consumers injure their skin or not; whether purchasing of products will decrease consumer perceived risk or not; and whether good customer relationships exist between sellers and consumers in order for consumers to keep a fine relationship with them, and then effect reliability, satisfaction, promise and loyalty to enterprises.

It has been observed that there has been an increasing interest in statistical or computational techniques in their applications in recent years (Ambe, 2010; Ding, 2010; Amini and Vahdani, 2008; Chang et al., 2008; Omurlu et al., 2008; Hsiao et al., 2005a, 2005b, 2005c, 2005d, 2005e; Chen et al., 2005a, 2005b; Chen, 2010; Chen, 2011a,b,c,d; Lee et al., 2011a,b; Hsieh et al., 2006; Chen et al., 2006a, 2006b, 2006c; Chen, 2006; Chen et al., 2007a, 2007b, 2007c, 2007d, 2007e, 2007f; Chen et al.,

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2008a, 2008b, 2008c, 2008d, 2008e; Yeh et al., 2008; Chen, 2009a, 2009b; Chen et al., 2009a, 2009b, 2009c, 2009d, 2009e, 2009f; Lin et al., 2009a, 2009b, 2010c; Lin and Shih, 2010; Lin and Chen, 2010; Chen and Chen, 2010a, 2010b; Chen, 2010a, 2010b; Chen et al., 2010a, 2010b, 2010c, 2010d, 2010e, 2010f, 2010g, 2010h; Lee et al., 2010a, 2010b; Chiang et al., 2010; Chen et al., 2011a, 2011b; Chen and Huang, 2011; Chen, 2011a, 2011b). Although the objects of this study are female consumers, this paper would integrate the statistical and marketing management for the case study of cosmetics purchase, and will explore brand equity, relationship quality, perceived risk and customer satisfaction. Furthermore, mutual relationships and behavioral trend of female consumers will be understood and provided as a reference. For cosmetic entrepreneurs, the images presented by the brands are an extremely important element. One of the purposes of purchasing cosmetics for female consumers and customers is to let their own appearance acquire other persons' identification and admiration. However, as cosmetic entrepreneurs are building brand image to let consumers believe and recognize them, orientation of brand equity will be established. Based on the American Marketing Association (AMA), the definition of brand is termed as a label, a sign, a design or a synthetic used to recognize brand products or services, and which is different from that of other rival products. Kotler (1994) was of the opinion that a brand provided six meanings to consumers, attribution, benefits, value, culture, personality and customer type, respectively. Before some certain brands can communicate clearly, the meanings of these six constructions would have had a deep image in the consumers' minds. Aaker (1991) held that brand equity is a set of property that connects with brand, name and sign, and is a debt collection that might increase or decrease the value of the product or service provided by companies. As the brand's name or sign changed, the connective property and debt also changed or disappeared. However, the sources of these properties or debt include: brand loyalty, brand popularity, perceived quality, brand association and other exclusive brand properties.

RESEARCH METHODS

Farquhar (1990) addressed three ways of acquiring brand equity:

1. Building brand equity: In enhancing product quality, a positive appraisal of the brand's equity is built on consumers, while intensification of the brand's attribute association to consumers affects their purchasing behavior. However, developing an identical brand image makes the consumers to have a positive connection with the brand image.
2. Borrowing brand equity: In making use of brand extension, the famous brand in the same product or diverse product categories is applied. In carrying out brand extension, the following conditions must be met: (i) consumers sense that there is consistency between extension and original products; (ii) extension products

have competitive advantages in the market as opposed to the original product categories; and (iii) consumers have a feeling that the benefits of the original products can be transferred to the extension products.

3. Purchasing brand equity: In making use of the given authorization, brand equity can enter other markets quickly, expand new marketing channels and strengthen the original brand's awareness; whereas in order to avoid brand authorization failure, successful brand authorization must meet perceptual fit, have competitive advantages and transfer the benefits to the original product.

Relationship quality

The relationship between enterprises and customers can be related to that of friendly feelings among friends (Lin, 2006). How to keep a good relationship is one of the most vital factors used to acquire much more benefits to keep enterprises' operation intact and meet customers' needs. It is not only a basis of relationship marketing, but also a connection between enterprises and customers (Figure 1) (Storbacka et al., 1994). Relationship qualities include satisfaction, reliance and communication, and it extends to be a part of customer satisfaction (Ball, Coelho and Machas, 2004). Relationship qualities are like a good reliance relationship among partners, and they aid enterprises in obtaining successful results (Lee and Kim, 1999).

Perceived risk

As customers purchase cosmetics, if they feel unknown and dubitable, their purchase intention will be affected. This behavior in psychological dimension is a perceived risk (Bauer, 1960). Johnson (2004) was of the opinion that the decreasing customer perceived risk, the well-known brands, brand equity, store image, reassurance and price can make customers acquire product knowledge and reduce customers' unknown and dubitable feelings.

Customer loyalty

The loyalty concept began in the 1950's, when Brown and Cunningham made use of it to carry out an empirical study. Earlier scholars, including Newman, Werbel and Tellis, defined a loyal customer from the empirical recodes of the customer purchase behavior. Newman and Werbel sees loyalty as the purchase of some certain brands or the purchase of only one brand; whereas, Tellis sees loyalty as the frequent circulation of some certain purchases and the relative volume seen in the same brand purchase while purchasing goods. Customer loyalty is the relationship that exists between the individual relevant trust of a brand and service, etc., and the intensity of the repetitive purchase intention (Dick and Basu, 1994). Jones and Sasser (1995) divided customer loyalty into three categories: intent to repurchase, primary behavior and secondary behavior.

Research design

Based on this study's framework, a questionnaire was designed. SPSS was used during factor analysis, and its factor loading table was used to measure the correlation of each observed variable and factor. The higher correlation presents the observed variable and can be used to measure the factor. After choosing factors and then carrying out transformation, the purpose was to find the maximum angular variable present in the data.

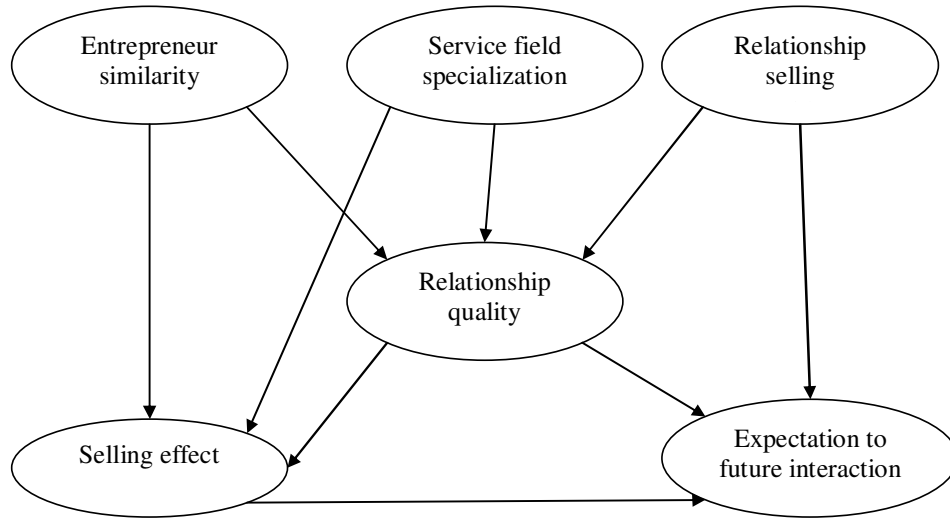


Figure 1. Relationship quality model (Crosby et al., 1990).

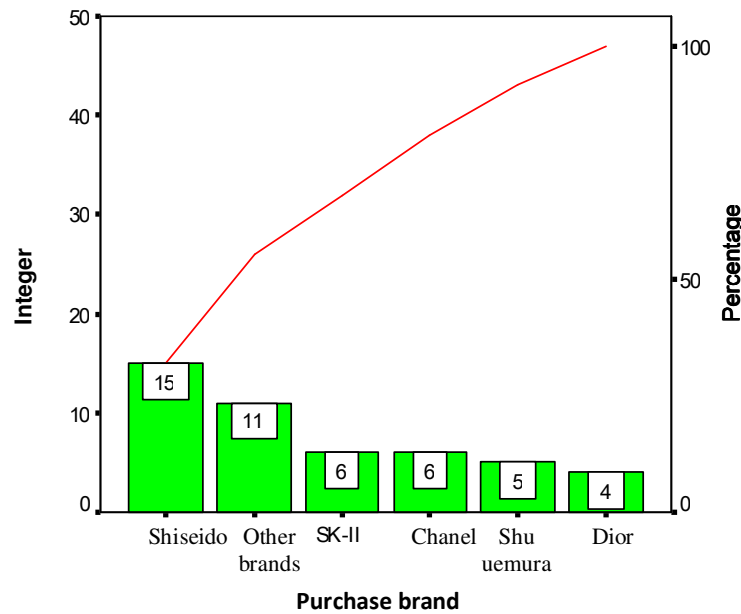


Figure 2. Analysis of purchase brand in Plato.

VALIDITY ANALYSIS AND FACTOR ANALYSIS

It is an index that reflects the correctness and accuracy of measurement. The questions used in the questionnaire are divided into seven categories: The first category deals with the purchase brand of the brand equity; the second category determines if the purchase brand meets customer satisfaction in customer need; the third category determines if it supports the brand in brand equity; the fourth category determines if it lacks benefit in customer need; the fifth category determines if it supports purchase in brand equity; the sixth category determines if enterprises are superior to other competitors in customer

need; and the seventh category determines if the price is higher in perceived risk.

Reliability analysis

Reliability analysis is all about credibility and consistency. It is an index that reflects the consistency of grades in diverse conditions. Alpha (α) = 0.8945 presents high reliability, which is quite correct and credible.

Figure 2 shows the analysis of the percentage of purchase brand, formed by Shiseido and other brands, like SK-II, Chanel, Shu uemura and Dior. According to

Figure 1, Shiseido is purchased most often by customers, than other brands like SK-II.

CONCLUSIONS AND SUGGESTIONS

Toiletries (cosmetics) are not only related to good hygiene, but are also designed to enhance beauty. The usage of cosmetics is quite prevalent, especially among financially secure women. This study integrates brand equity, relationship quality, perceived risk and customer satisfaction into its discussion. Consumer brand choice and customer satisfaction are enormously affected by brand image, sellers' experience and various factors related to the presentation of the products, such as packaging, containers, cosmetic name, etc. Nevertheless, enhancing brand equity, relationship quality and customer satisfaction, so as to influence young student leaders or office workers to use certain products, is important. Then through their usage experience and opinions, others will be attracted to use these products. Moreover, the cognition of brand equity, relationship quality and customer satisfaction will be increased in young groups.

RESEARCH LIMITATION

The objects of this study are female student consumers in the Department of Logistics Management, Shu-Te University, who purchased cosmetics. Besides, questionnaire was the simplest and basic survey used for the study. The result for the conditions of the entrepreneurs might not be the same, or might cause some inaccuracies; still, it is a good reference index.

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