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BRAND IDENTITY ADJUSTABLE TO REDESIGN BY USING SIMILARITY MATCHING FOR LADY FASHION SHOES

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ABSTRACT

Presently, fashion products in Asian are highly interested. A lady fashion shoes is one of the biggest markets in Bangkok, Thailand. There are both local brands and import brands. However, customers' emotion is difference and variance depended on a place and its environment. This paper proposes design methodology for (re)design new product in response to the variety of customers' perception. The design methodology has 2 steps. The first step, aims to explore brand identity and product components with express their identity. The second step, aims to (re)design new product in response to customers' perception. The data collection is analyzed by PCA technique that is used to explore brand identity. Similarity matching is used to retrieve previous shoe components from database to (re)design new product. The design methodology will help designers adjusting the product form, aesthetic, semantic and symbolic aspects of cognitive in response to customers' perception.

Keywords: *brand identity, fashion lady shoes, customers' perception, (re)design, similarity matching*

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1. INTRODUCTION

Brand identity of a fashion product has become extremely significant for both customer image and manufacturer correspondence via a quick response to redesign. It is expressed by companies' value in terms of its semantic which can convey values to meet customers' expectation. This can benefit to a fashion designer in order to know what the customer really want and concentrate on the brand identity. Customers' satisfaction relies on desires more than needs, whereas the desire is mainly depending on aesthetic, semantic and symbolic aspects of cognitive response to design, including intrinsic properties like sustainable design [1, 2].

A lady fashion shoes is one of the biggest markets in Bangkok, Thailand. There are both local brands and import brands. However, customers' emotion is difference and variance depended on a place and its environment. Brand identity plays an important role in the decision processes of business customers in the aspects of a tool for achieving organization consensus among the many actors involved in the manufacturing and buying process [3]. To design product meeting variety of customers' emotion, it is necessary to redesign the products with quickly and meeting customers' perception. This paper proposes design methodology for (re)design new product in response to variety of customers' perception. The data collection is analyzed by PCA technique to explore brand identity. Similarity matching technique is used to retrieve previous shoe components from database to (re)design new product.

2. LITERATURE REVIEW

Product design is currently linked with customers' emotion and feeling which is a critical influence for everyday decision making. They are conveyed through the semantics of an object. They follow a complex process including how the visual stimulus answers to customers' values, attributes and design elements [4]. Form and identity of product are largely constructed through visual recognition and brand-specific associations, which dominate the first impression and affect user's feeling when using product [5]. Warell et al. [6] stated the procedure of a transferring identity to the domain product design. Firstly, they defined identity as an attribute of a thing, which is shared with something else such as similarity and dissimilarity. Brand identity involved the key identity attributes of the company in a condensed form. It expressed the values of the brand with their form. The principle mission of brand identity is to foster recognition [6].

Branding begins with an objective assessment of a company's product currently position comparing with competitor's products in the aspects of share market, market growth, and projection for the industry. These measures are complemented by more subjective analysis gained through listening to key internal and external constituencies. Brand identity has become ubiquitous to the point that is a combination of several factors [7]. Brand name, logo and slogan are the key element factors of a brand identity and contribution of brand equity. They enhance a brand image, assist in its recognition and recall even through understanding how to create brand differentiation in customers' minds [8]. Branding communicates with people perception including customer's perception via brand as well as position of products as known as brand image and brand position and marketer's perception which is called brand

identity. The brand identity links to another three main factors; core identity, extended identity and brand essence. The core identity reflects the values and strategy of organization. The extended identity concerns with product, person, organization and symbol of the brand. The brand essence is a single thought that captures the heart and soul of brand. Brand identity analysis involves with three factors; internal analysis, customer analysis and competitor analysis. The internal analysis concerns with existing branding, strengths and strategies brand heritage and organizational values. The customer analysis concerns with emerging trends, compelling needs, motivations and segmentation. The competitor analysis considers brand and image identity, strengths and strategies, vulnerabilities and positioning [9].

3. METHOD

This section describes the design methodology. It has 2 steps. The first step, aims to explore brand identity and product components with express their identity. The second step, aims to (re)design new product in response to customers' perception.

3.1. Explore brand identity

This study aims to explore brand identity and shoe components with express their identity of popular shoe brands from Bangkok fashion shoes users and sellers. The following method is the one described in Nattapong et al. [10]. The method has 6 steps: definition of shoes and components, definition of semantic adjectives, definition of the questionnaire, interview target customers, data analysis and interpretation results.

3.1.1. Definition of shoes and components

The top 3 Asian lady shoe brands together with 1 European lady shoes brand are selected as shown in Figure 1. Brand A and B are from Thailand, whereas brand C and D are from China and France respectively. Each brand is selected by the forms of its collection. The total four brands contain 20 pairs are classified shoe components in 9 categories: counter, belt vamp, heel, no counter, toe cap, lace up, zip and lace as shown in Figure 2.

3.1.2. Definition of semantic adjectives

The expert designers have selected adjective words from category styles of the lady shoes. A list of 20 words was including opposite couple semantic adjectives. They are basic and luxurious, chic and comfortable, masculine and feminine, classic and trendy, elegance and functional, casual and formal, dynamic and serene, traditional and original, compact and oversize, simple and complicated.

Figure 1: The brand categories of lady shoe.

Figure 2: The brand categories of lady shoe.

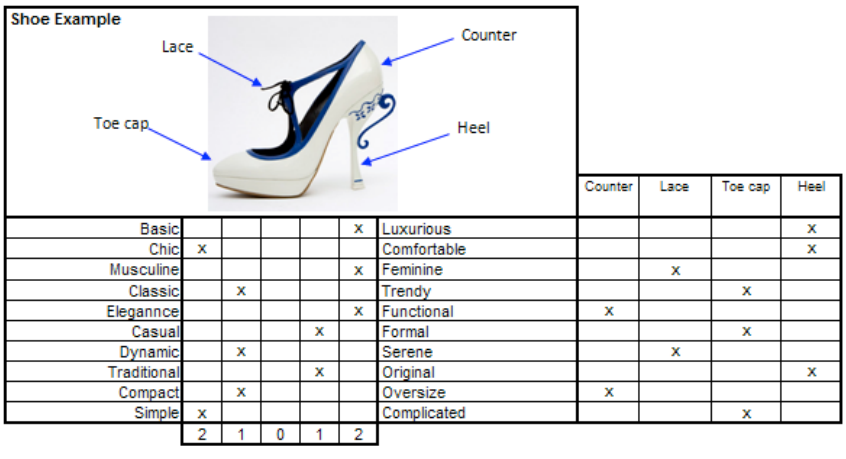

Figure 3: Example of questionnaire for measuring customer's feeling to a sampling shoe.

3.1.3. Definition of the questionaire

The questionnaire consists of the couple opposite semantic adjectives words as shown in the Figure 3. The Likert scale is applied to measure degree of customer's feeling. The questionnaire is used both for measuring semantics and examining the link between semantics and product components of the sampling shoes.

3.1.4. Interview of Emporium and Siam paragon

The most well-known fashion shopping centers are selected to fill information of the questionnaire. The criteria of sampling people are selected from people that dressing in the styles of trendy, chic and wearing fashionable shoes. Thirty sampling people are selected to the interview.

3.1.5. Data analysis

The data is analyzed by the principal components analysis (PCA) technique using STATBOX software. PCA is a technique used to reduce multidimensional data sets. Figure 4 shows the brand identity mapping of the Thai customers' emotional survey that enable to visualize through a PCA mapping on the semantic adjectives of the shoes.

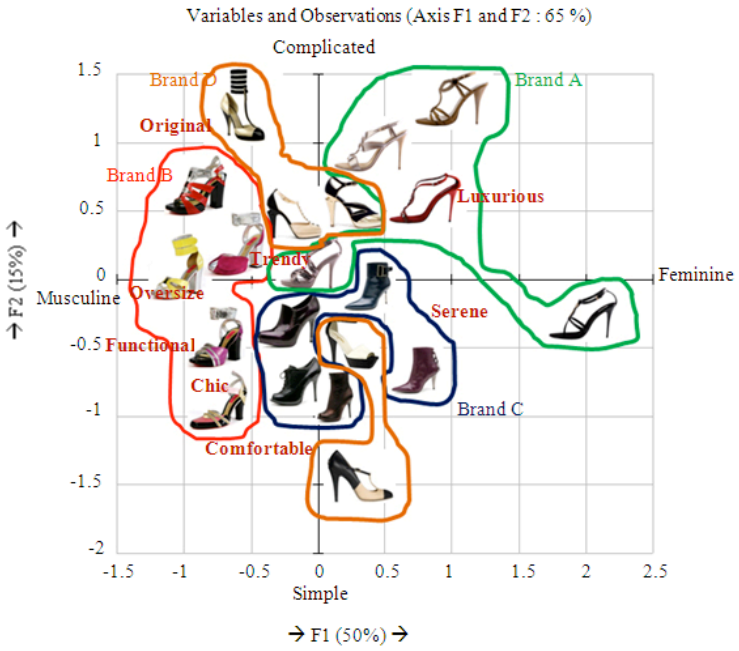

Figure 4: Example of questionnaire for measuring customer's feeling to a sampling shoe.

The mapping is shown that the Simple and Complicated is selected for the F1 axis whereas the Masculine and Feminine is on the axis F2. The brand A trend to be complicated, luxurious and feminine. The brand B looks masculine and chic (which represent strong feeling). The brand C looks serene and comfortable. The brand D looks original, comfortable and simple.

3.2. (Re)design method

Previously, the lady fashion shoes are investigated by customers' emotion interview and analyzed by the PCA technique. This section explains the concept of brand identity

adjustable to (re)design method. The paper proposes the method to adjust the brand identity to meet the customers' emotion and needs. Firstly, the co-variance (brand identity) is examined for each brand. Secondly, the variant customers' perception is matched with brand personality. Thirdly, such component is modified. It is associated by the component database and similarity matching matrix which is the process of comparing two cases to each other and determining their degree of similarity. Similarity matching method is used to search previous components from the CAD library and design extrusion-die and high lift to search, match and calculate similar case [12-14]. Semantic value of shoe component is used to compare similarity of a new case and previous cases. Fourthly, the matched component is selected and modified to the main body of the lady shoe.

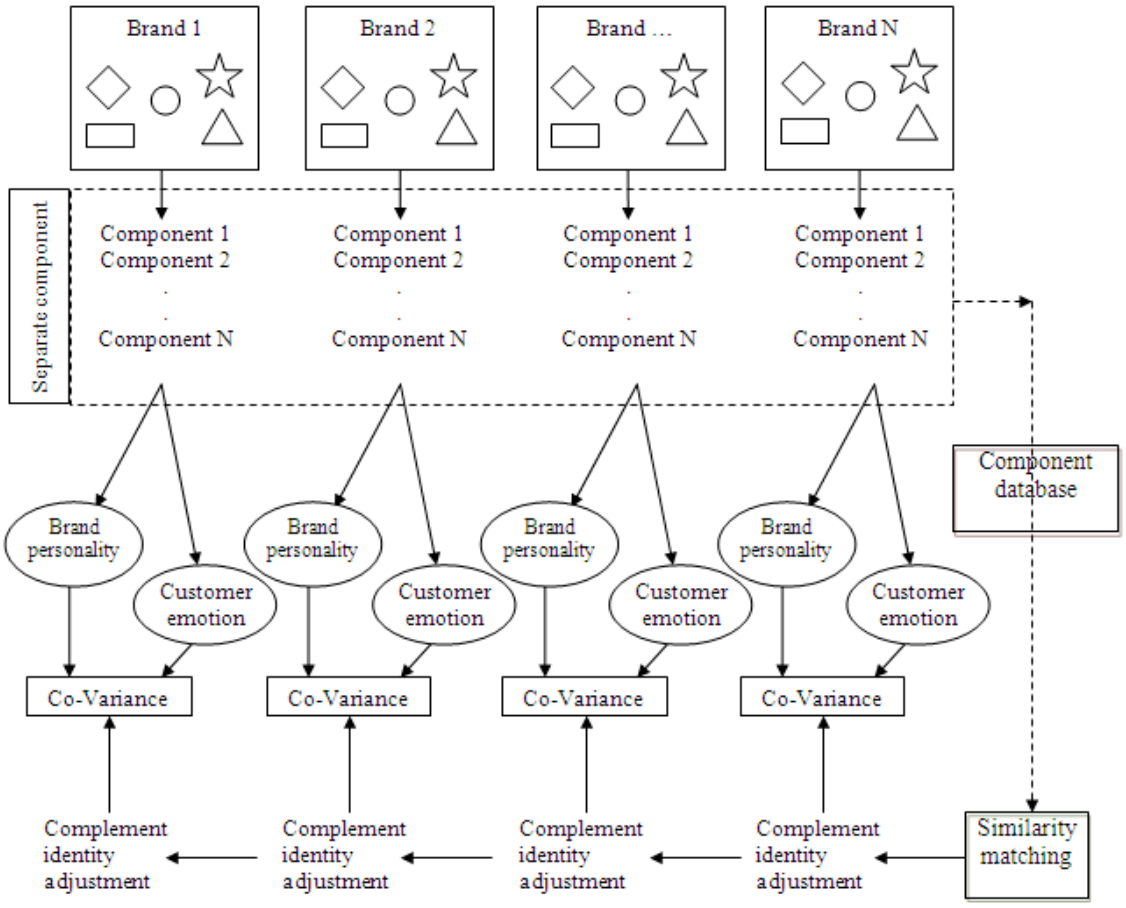

Figure 5: Similarity matching method for brand identity adjustment.

The equation of similarity matching is shown in equation (1).

$$Sim(Expt_{i,j}, Brand_{i,k}(SDV_j)) = \sum_{1}^{n} 1 - \frac{|Expt_{i,j}| - |Brand_{i,k}(SDV_j)|}{Range(SDV_j)} \quad (1)$$

Where

$Expt_{i,j}$ = Expected value

$Brand_i$ = Brand of shoe i

SDV_j = Value of semantic different j of Brand i

Range(SDV_j) = range between maximum scale and value of semantic different j of Brand i (In this case maximum scale = 2, minimum scale = 0)

j = Input semantic different

k = Component of brand i

3.2.1. Examination the brand identity

The brand personality of brand A is product for young trendy women with a love for fashion and quality products [11]. Figure 6(a) shows lady shoe mapping of brand A. Figure 6(b) shows lady shoe components mapping of brand A. It can be divided into 3 groups. The first group is original and complicated which is linked to the belt and the vamp. The second group is chic and trendy which refers to the belt and the counter. This group is corresponding to the brand concept. The third group is luxurious, classis and serene which refers to the belt, the heel and the counter.

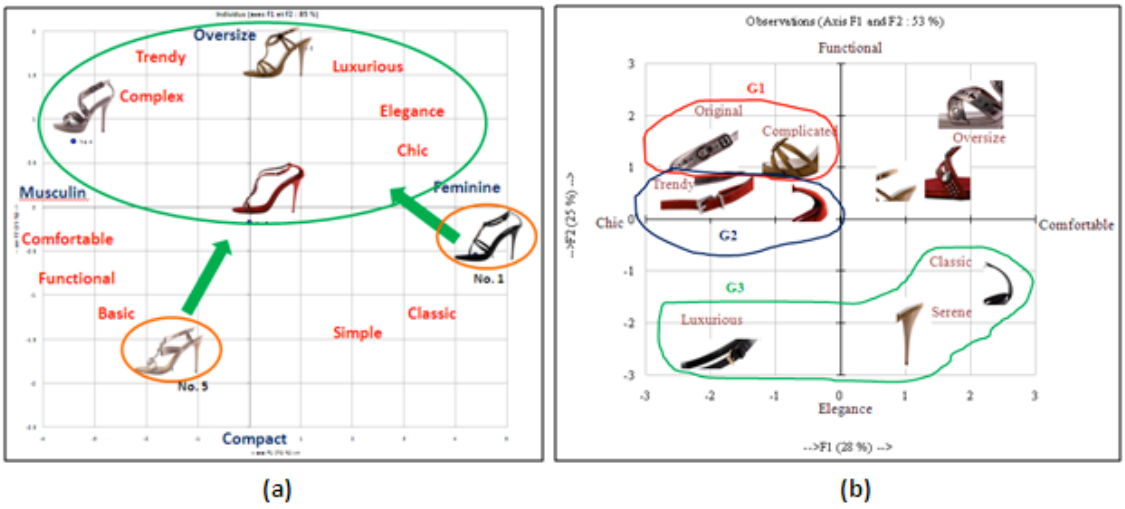

Figure 6: Lady shoes mapping for brand A.

3.2.2. Matching customers' perception and brand concept

Figure 6(a), shoe No.1 and 5 are distant from brand personality. The personality of shoe No. 1 is classic and feminine. The personality of shoe No.5 is basic and compact. Thus, shoe No.1 and 5 are modified to response to customers' perception and brand personality. Thus, they are necessary to modify the shoe components to correspond to brand.

3.2.3. Selecting the component for modification

Figure 6(b) shows shoe components mapping. The counter of shoe No.1 illustrates classic value that does not response to brand concept. The vamp of shoe No.5 illustrates comfortable value does not response to brand concept. Then, the counter of shoe No.1 and the vamp of shoe No.5 are selected to modify.

3.2.4. Modification Method

This research, reuse and modify are used to (re)design a new shoe. Similarity matching is used to search similarity previous case from the data library. Semantic adjectives that related the brand concept of brand A are trendy, chic, elegance, luxurious. The step of similarity matching is following: input expected value, select component and select semantic adjective. The results are discussed in next section. Figure 7 illustrates the sample of similarity matching results.

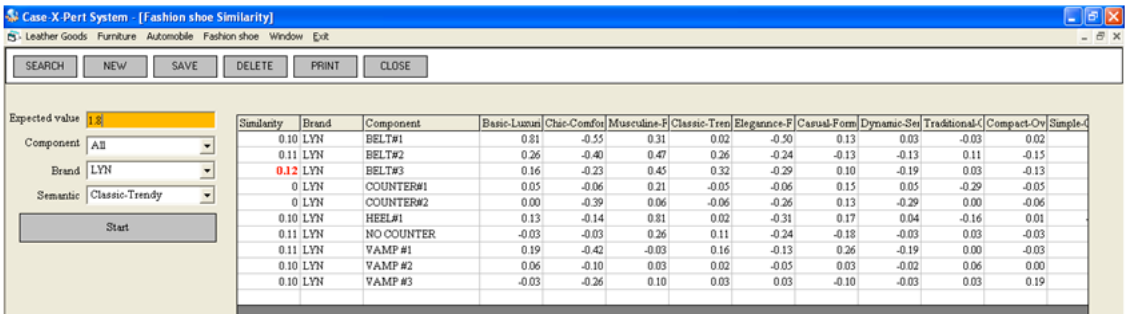

Figure 7: The example of similarity matching result.

4. RESULT AND DISCUSSION

The counter of shoe No.1, was selected to (re)design. We can modify in 2 styles. First, the counter of shoe No.1, was replaced with the counter#2 because it expressed more chic and elegance as shown in Figure 8(a). Second, the counter of shoe No.1, was replaced with the no counter due to it expressed more trendy and luxurious as shown in Figure 8(b).

Figure 8: Modified shoe No.1.

The vamp of shoe No.5, was selected to (re)design. We can modify in 2 styles. First, the vamp of shoe No.5, was replaced with the vamp#1 due to it expressed more chic, trendy luxurious and elegance as shown in Figure 9(a). Second, the vamp of shoe No.5, was modified by reduced the width of vamp and added vamp lines to similar with the vamp#1 as shown in Figure 9(b).

Figure 9: Modified shoe No.5.

From the results as shown in Figure 8 and 9, were (re)design from existing shoe components that tended to brand personality. They were decided from the designer's point of view. Then, they are not storing in the data library until they are interviewed by the customers again.

5. CONCLUSION

This paper proposed design methodology for (re)design new product in response to variety of customers' perception. The new design methodology has been helped designers adjusting the product form and semantic in response to customers' perception and brand personality. PCA technique was used to explore brand identity and shoe components with express their identity. Similarity matching was used to search similarity previous case from the data library. The shoe components in data library are used to reuse or modify new shoes. The new shoes were (re)design from existing shoe components that tended to brand personality. Thus, the further research will (re)design new shoes by including creativity.

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