
The impact of nostalgic emotions on consumer satisfaction with packaging design

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Keywords

Consumer satisfaction, Kano model, nostalgic emotion, Packaging design, Multiple-attribute decision making

Abstract

Product packaging design has become one of the most powerful tools in the marketing communications mix to delight consumers. Evoking nostalgic feelings through design can generate positive emotions to enhance consumer satisfaction effectively. The purpose of this study is to explore the different impact of nostalgic emotions on consumer satisfaction with rice packaging design. The questionnaire survey was conducted to gather the consumer's emotion evaluations and overall satisfaction on nostalgic packaging. The factor analysis was used to explore the consumers' emotional experience dimensions, from which two factors: stirring emotion and historical emotion were identified. Then the two-dimensional Kano model was conducted. The 11 nostalgic emotions were categorized as different Kano's classifications, including must-be quality, one-dimensional quality, attractive quality and indifference. This implies that there exist linear and non-linear relationships between nostalgic emotion performance and consumer satisfaction. Based on the result of Kano categorization can help designers to better understand consumer requirements, to identify the critical and high-return factors of satisfaction with nostalgia. It also can help designers determine the priority to resolve the trade-offs dilemma in multiple-attribute decision making.

1. Introduction

Consumer satisfaction is the major concern and prerequisite for competitiveness in today's global market. Competition for consumer attention and preference, at the point-of-purchase, has become more intense. Packaging design is about what catches our eye and what doesn't. Marketers are now fully aware that product packaging design plays a critical role in a brand's marketing strategy to effectively influence shopping behavior at the point-of-purchase, where most buying decisions are made. Packaging can reflect the products' content and identity to draw the potential purchaser's attention. It also represents a crucial element in enhancing brand image via conveying functional, symbolic, and experiential benefits (Shimp, 2004). Product packaging design has become one of the most powerful tools in the marketing communications mix to delight consumers.

Facing the product equivalence in market, the affective appeal of product has become the critical determinant of consumer satisfaction. Emotion plays a significant role in the actual and perceived experience with products (Norman, 2003; Jordan, 2002; Desmet, 2002). Packaging design that provides aesthetic and emotional appeal can greatly influence the success of a product. Many companies have come to recognize that nostalgic packaging is one effective way to sell products. Nostalgia has the ability to make consumers yearn for a past time or in other

words, has the ability to bring us back to “the good old days.” Human beings demand emotional feelings which stem mainly from life experience in the past and the proliferation and spread of psychological atmosphere among the public. Marketing practitioners increasingly use nostalgic cues such as themes, images, jingles, and old slogans in advertising and nostalgic products (Havlena and Holak 1991; Baker and Kennedy 1994) to offer consumption experiences which are characterized by a taste of youth (Stern 1992), to evoke memories of consumers’ past personal experiences (Sujan, Bettman, and Baumgartner 1993), and to elicit emotions (Braun, Ellis, and Loftus 2002).

Holak and Havlena (1998) indicated the complexity of the emotions elicited in nostalgic experience. Positive emotions such as warmth, joy, affection, and gratitude are linked with sadness and desire to produce a mixed affective response. The related research also indicates that nostalgia emotions from consumers in Old Street trip consist of five distinct dimensions, i.e. warmth, sophistication, memorability, leisure, and historicity emotions (Tsai and Hsu, 2007). This variation of emotion perception implies that consumer satisfaction with nostalgic design has a multiple-attribute nature. Considering the multiple-attribute nature of consumer satisfaction, however, there are difficult trade-offs to be made when deciding which attributes should be emphasized in the design process. To resolve this problem requires understanding that quality attributes do not equally contribute to consumer satisfaction. Therefore, it is important to decide which attributes create more satisfaction than others. Past studies generally assumed the relationship between quality attributes and consumer satisfaction to be linear and symmetric. Consumers would supposedly be satisfied if a certain quality attribute of a product was provided; otherwise, they would be dissatisfied. This assumption is not necessarily correct for some attributes. To improve the shortcomings of assuming a linear relationship between attribute performance and consumer satisfaction, a two-dimensional Kano model describing the linear and non-linear relationship between attribute performance and consumer satisfaction is developed (Kano, Seraku, Takahashi, and Tsuji, 1984). This model divides attributes (qualities) into must-be, one-dimensional, indifferent and attractive qualities based on how they satisfy consumer needs, as Fig.1 illustrates.

Matzler et al. (1998) showed that using the Kano model to classify consumer needs gives designers a better understanding of product requirements. This model can provide useful information for allocating design resources, and resolve trade-offs more effectively in multiple attributes decision making (Chen and Chuang, 2008; Tontini, 2007). So far, application of the Kano model has mostly focused on the effects of physical or technical product qualities on Consumer satisfaction. This study aims at discussing the different impacts of nostalgic emotions on consumer satisfaction, and a case study on rice packaging design was conducted. The Kano model is used to better understand the relationship between attributes performance and consumer satisfaction. It can help designers to identify the key attributes in consumer satisfaction, and to resolve trade-off dilemma in multiple-attribute decision making.

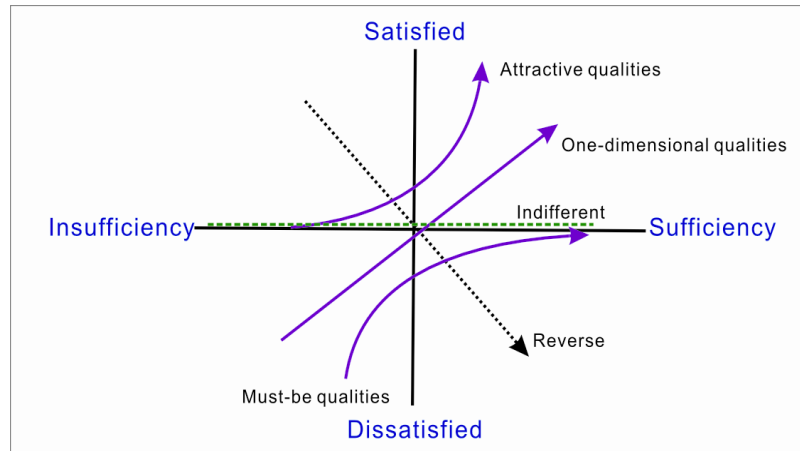


Fig. 1 Kano model of consumer satisfaction

2. Theoretical Background

2.1 The concept of nostalgia

Nostalgia is often described as a longing for past times. Thus, people try to recreate aspects of the past in their present life by reproducing past activities and focusing on possessions that remind them of the past (Holbrook 1993; Holbrook and Schindler 1991; Sierra and McQuitty 2007; Stern 1992). Belk (1990) and Holak and Havlena (1992) see nostalgia as an emotion consisting of both pleasant and unpleasant components. On the one hand, people reminiscing in memories of the past are happy, but on the other hand, people are sad because they would like to relive the past times and because they realize that this is impossible at the same time (Baker and Kennedy 1994). Nostalgia is a type of psychological need (Davis, 1979). It is a feeling or a mood that causes a preference for things that tend to evoke nostalgic responses (Holak and Havlena, 1998). Consumer behavior supported by the emotional needs aims at obtaining happiness, satisfaction and spiritual enjoyment, and lies within the scope of nostalgic consumption.

Nostalgia can be triggered by many different things such as a scent, touch, a song, or an image and generally brings the individual back to a happier point in time and a longing to go back. The source of nostalgia is not limited to things that an individual experienced in his/her past (Yeh, Chen, and Liu, 2012), but also things for which a felt longing exists. Nostalgia may arise because a person sees the thing or the object as connecting him/her to a different time period. Understanding how people react to a source by feeling nostalgia can thus help explain their consumer behavior. The related studies indicated that evoking nostalgic feelings through design generates predominantly positive emotions (Holak and Havlena 1998; Pascal, Sprott, and Muehling 2002). The nostalgic advertising messages can arouse attention and are entertaining (Reisenwitz, Iyer, and Cutler 2004). Therefore nostalgic feelings and thoughts can drive the behavior of people (Hirsch 1992). When experiencing nostalgia in a consumption context, consumers are supposed to show higher purchase likelihood with regard to the advertised products (Reisenwitz, Iyer, and Cutler 2004) and to purchase especially nostalgia-related products (Sierra and McQuitty 2007).

2.2 Review of Kano model

The Kano model classifies product attributes (qualities) into three distinct categories. Each quality category affects consumers' satisfaction in a different way, as Fig.1 shows. The three different types of qualities are explained as follows:

(1). The must-be quality or basic need: Here, consumers become dissatisfied when the performance of this product attribute is low or absent. However, consumer satisfaction does not rise above the neutral level with increased performance of this product attribute.

(2). The one-dimensional quality or performance need: Here, consumer satisfaction is a linear function of product attribute performance (quality). Increasing attribute performance leads to enhance Consumer satisfaction.

(3). The attractive quality or excitement need: Here, consumer satisfaction increases super linearly with increasing attribute performance (quality). There is not, however, a corresponding decrease in consumer satisfaction with a decrease in attribute performance. Besides these three qualities, two more quality types can be identified: the indifferent and reversal qualities (to be precise, they should be called characteristics because they are not really a Consumer need or quality). For the indifferent quality, consumer satisfaction is not affected by the performance of a product attribute at all. For the reversal quality, consumers are more dissatisfied as the attribute performance increases.

2.3 Identifying the Kano categories of quality attributes

To classify attributes into Kano types of quality, Ting and Chen (2002) proposed a regression model to evaluate the effect of a quality attribute on consumer satisfaction. They performed a regression analysis for each quality attribute, using consumer satisfaction as the dependent variable and the positive/negative performance of a quality attribute as the independent variables. Positive performance of a quality attribute means that this attribute is present (sufficient), while negative performance means the attribute is absent (insufficient). In their study, the following linear regression model can estimate the impact of positive and negative attribute performance on Consumer satisfaction:

$$US = C + \beta_1 \times (-k_n) + \beta_2 \times k_p \quad (1)$$

where US is the degree of consumer satisfaction; negative and positive performance of a quality attribute are represented as k_n and k_p respectively; and β_1 and β_2 are their corresponding regression coefficients.

When the performance of an attribute is negative, the value of the negative performance is equal to $(-k_n)$ and k_p is assigned to 0. On the other hand, if the performance of an attribute is positive, the value of the positive performance is equal to k_p and k_n is assigned to 0. Comparing the two regression coefficients (β_1 and β_2) can reveal the varied relationship between the attribute and consumer satisfaction, according to the positive or negative value of the coefficients with significance. For a conventional (linear type) attribute, β_1 should be significantly negative; while β_2 should be significantly positive. The greater the absolute value of the coefficient; the greater its effect on Consumer satisfaction is. According to the Kano model, quality attributes can be classified into different categories according to whether the regression coefficients reach the significant level or not. The classification guidelines are described as follows:

- (1). When β_1 in the regression equation is not significant, but β_2 is significantly positive, this represents the situation of attractive quality.
- (2). When β_1 in the regression equation is significantly negative, and β_2 is significantly positive, this represents the situation of one-dimensional quality.
- (3). When β_1 in the regression equation is significantly negative, but β_2 is not significant, this represents the situation of must-be quality.

- (4). When both β_1 and β_2 in the regression equation are not significant, this represents the situation of indifferent quality.
- (5). When β_1 in the regression equation is significantly positive, while β_2 is significantly negative, this represents the situation of reversal quality.

3. Research method

This study involves the following four stages: (1) selecting the representative rice packaging designs, (2) identifying representative nostalgic emotions that appeal to the consumers, (3) conducting the questionnaire survey to collect the consumers' evaluations with the experimental samples on each nostalgic emotion and overall satisfaction. Each stage is presented below.

3.1 Selecting the representative design samples

Due to the difficulty of collecting a large number of real rice packaging designs and conducting a questionnaire survey on them, this study used photos of packaging design as the stimuli for eliciting consumer responses. A total of 25 representative samples (Fig.2) were selected by 10 senior designers through a focus group (Nielsen, 1993). Participants included 4 females and 6 males. Each rice packaging design was represented by a scaled 4"×6" color photographic image.

3.2 Identifying the representative nostalgic emotions

To understand the previous research about nostalgic emotions and consumer satisfaction for packaging designs; the literature was referenced to form the concept for this study. A focus group then was conducted for identifying the nostalgic emotions that appeal to Consumers. 8 senior designers, 4 females and 4 males, with an average design experience of more than 6 years in the graphic design field, and 8 consumers, 4 females and 4 males, were asked to participate in a focus group (Nielsen, 1993). Based on the literature review and the implement of focus group, 11 emotional attributes were determined for the survey, as shown in Table 1.

3.3 Conducting the questionnaire survey

32 male and 28 female subjects between 20-38 years old were recruited for the evaluation experiment. All 60 subjects were asked to evaluate the 25 experimental samples of rice packaging designs on each of the 11 nostalgic emotions and overall satisfaction. The questionnaire was divided into two parts. The first part asked consumers to report, with a 5-point Likert scale (from 1 = not at all to 5 = intensely so), what they think or feel about how each design performed in each of the 20 emotional attributes. The second part of the questionnaire asked subjects to report their overall satisfaction on the nostalgic packaging design with a 5-point Likert scale, where 5 represents the highest level of satisfaction and 1 represents the lowest level of satisfaction.



Fig. 2 Representative samples of rice packaging designs

4. Result and discussion

4.1 Factor analysis of nostalgic emotions

The questionnaire survey results were averaged over subjects and analyzed with exploratory factor analysis to extract factors generic to the nostalgic emotions on rice packaging designs. The varimax rotation method is used to extract emergent factors. Two factors, "stirring emotion," and "historical emotion", were identified with the extracting criteria of an eigenvalue larger than 1 (Table 1). These two factors can account for 62.6% of total variance were extracted.

Furthermore Tukey's multiple range t-test was conducted to compare the overall satisfaction of different rice packaging designs. Packaging designs used in the survey were ranked and grouped with the consumer evaluation scores based on the analysis results. Figure 3 shows the spectrum of packaging designs for the high score group and the low score group on 'overall satisfaction'. As Fig. 3 indicates, there are noticeable design differences between the high score group and low score group. The packagings belonging to high score group using the pictorial design and contrast in color planning as appealing consumers; on the contrary, the low-score packaging designs uses the container or packaging material belonging to the past times as the cues to evoke the consumers' nostalgic images and emotions. As the result indicated that reproducing the past or traditional objects without creative insights, could not enhance consumer preference on nostalgic packaging design. Consumers prefer the packaging design not

only with the new looking, but also having the ability to bring them back to “the good old days” by using some symbolic and meaningful attributes, such as a pattern, a color, a material, form or usage as cues, not replication only.

Table 1 Result of factor analysis using varimax rotation

| Factor | Emotional attributes | Factor 1 | Factor 2 |
|--|----------------------|----------|----------|
| Stirring emotion | happy | 0.79 | 0.24 |
| | comfortable | 0.78 | 0.10 |
| | touched | 0.74 | 0.32 |
| | friendly | 0.70 | 0.41 |
| | meaningful | 0.61 | 0.44 |
| Historical emotion | traditional | 0.17 | 0.83 |
| | primitive | 0.23 | 0.81 |
| | recollective | 0.44 | 0.68 |
| | simple | 0.20 | 0.61 |
| | hospitable | 0.50 | 0.59 |
| | contented | 0.53 | 0.56 |
| Percentage variance explained (%) | | 31.8 | 31.8 |
| Accumulative percentage variance explained (%) | | 30.8 | 62.6 |

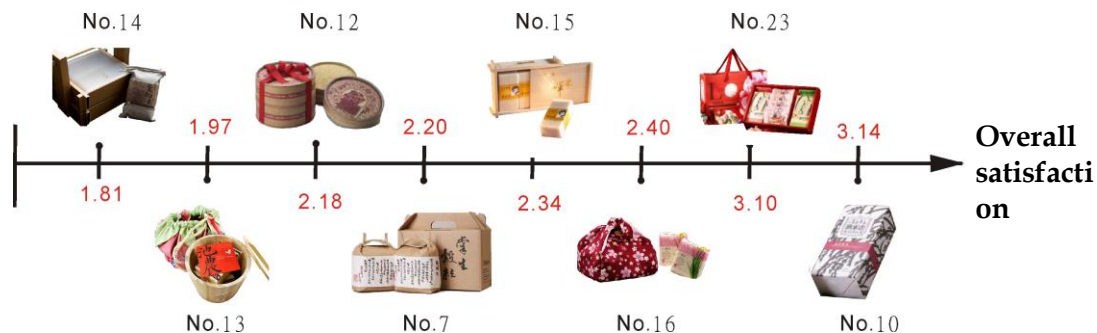


Fig.3 High score group and low score group for overall satisfaction

4.2 Identifying Kano's quality attributes of subjective attributes

To further identify the different effects of nostalgic emotion on consumer satisfaction, the Kano model using the regression method (Ting and Chen, 2002) was used to classify these nostalgic emotions into different Kano quality categories. The consumers' evaluations of 11 emotional attributes were then transformed into negative and positive performance, respectively. Setting overall satisfaction as the dependent variable and positive and negative quality attribute performance as the independent variables, the linear regression analyses were performed for each of the 11 subjective quality attributes according to Eq. (1). The significance of the regression coefficients was then used to determine the proper category for each attribute. The result of Kano's quality classification of each nostalgic emotion is summarized in Table 2.

Table 2 Result of the Kano classification of nostalgic emotions

| Emotional attributes | | $\beta_1(-)$ | Sig. | $\beta_2(+)$ | Sig. | R ² | Kano classification |
|----------------------------|--------------|--------------|------|--------------|------|----------------|---------------------|
| Stirring emotions | happy | -0.56 | * | 0.44 | * | 0.73 | O |
| | comfortable | -0.55 | * | 0.29 | n.s. | 0.54 | M |
| | touched | -0.54 | * | 0.45 | * | 0.75 | O |
| | friendly | -0.54 | * | 0.41 | * | 0.72 | O |
| | meaningful | -0.65 | * | 0.42 | * | 0.76 | O |
| Historical emotions | traditional | -0.31 | n.s. | 0.32 | n.s. | 0.40 | I |
| | primitive | -0.39 | * | 0.37 | * | 0.43 | O |
| | recollective | -0.36 | * | 0.52 | * | 0.61 | O |
| | simple | -0.10 | n.s. | 0.43 | * | 0.23 | A |
| | hospitable | -0.43 | * | 0.46 | * | 0.62 | O |
| | contented | -0.52 | * | 0.38 | * | 0.65 | O |

*: Sig. <0.05; n.s.: non-significant; A-attractive; O-one-dimensional; M-must-be; I-indifferent.

The result indicates that the nostalgic emotions were classified into different Kano categories, the varied relationships between nostalgic emotions and consumer satisfaction do exist. Note that four out of five attributes in the stirring emotion factor (Factor 1) were categorized as one-dimensional qualities. Higher performance in these attributes may lead to higher customer satisfaction. And 'comfortable' categorized as must-be qualities. If the performance of the attribute is low, consumers become dissatisfied. However, high performance of this attribute does not raise the level of their satisfaction. The emotion, 'comfortable', relative to sense and usability is a basic need for nostalgia. Packaging design should provide a certain level (minimum acceptable level) of comfortable attribute performance for the must-be quality to avoid major dissatisfaction. Four out of six attributes in the historical emotion (Factor 2), 'primitive', 'recollective' 'hospitable', and 'contented' were also categorized as one-dimensional qualities. And the attribute 'simple' is classified as an attractive quality. That is, the nostalgic design with the characteristics of simplicity can make consumers satisfactory, on the contrary a complex design will not lead to consumers dissatisfaction. It might be the old and traditional objects or designs are common in complicated ornament to show the excellent handicraft by the workman, the simplicity is appealing to the consumers. The attributes, 'traditional', categorized as indifferent qualities, do not affect consumer satisfaction with nostalgic packaging design.

To resolve the difficult trade-offs of optimizing customer satisfaction with multiple-attribute characteristic, the conventional weight determination methods may not be able to accurately reflect the relationship between quality attributes and customer satisfaction levels. In use of Kano classification can help designers determine the priority to resolve the trade-offs dilemma in multiple-attribute optimization of satisfaction. Once the quality attributes are categorized, the product can be designed to meet the different requirements of each quality attribute, according to its category. Comparing the performance of the current design with that of the average design can clarify the strengths and weaknesses of the current design. Referring to the definition of the Kano categories, the priority for attribute improvement can be determined.

For one-dimensional attributes, which can create customer satisfaction and have an actual competitive advantage, should be improved in all situations. Attractive attributes with better performance than average (target) can be the key to beating competitors because they delight customers. Therefore, these attributes should be further developed. On the contrary, weak attractive attributes, which do not result in customer dissatisfaction, do not critically endanger the competition position, and can be disregarded. Must-be attributes with a minimum acceptable level of attribute performance are taken for granted. Thus, weak must-be attributes should be improved to a certain level (average) to avoid major customer dissatisfaction. If must-be attributes are on the same level as the average (target), they should be maintained. For better resource allocation, the performance of strong must-be attributes should be maintained or even adjusted downwards to avoid over-fulfillment in exchange for cost savings. Indifferent attributes, which do not affect customer satisfaction, should be disregarded or even reduced in exchange for cost savings.

5. Conclusion

The empirical results support that the varied relationships between a nostalgic emotion performance and customer satisfaction exist. The application of Kano model can differentiate among consumer requirements. According to results of the study the critical nostalgic emotions for packaging design were identified. Factors underlying these appealing-to-consumer emotional attributes were explored. By using Kano model the relationship between nostalgic emotion performance and satisfaction were discussed to extract the key emotional attributes in satisfaction. Striving for maximum customer satisfaction is one of the most important objectives of product design. Based on the Kano classifications, we are able to prioritize actions to guide ideal product conception. Although the proposed approach in this study uses rice packaging designs as examples, with some adjustment, it may be applied to other fields or products with multiple-attribute characteristics for resolving the trade-off decisions and resource allocation optimization.

Acknowledgements

This research was supported in part by the National Science Council of Taiwan, ROC (Grant No. NSC 101-2221-E-017-002).

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