The effect of product style on consumer satisfaction: Regulation by product involvement

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1. Instruction

With the development of productive force and the increasing trend of technical homogenization, as the first media contacting with consumers, a product style starts to become an important product selection indicator of a consumer. A product style not only includes its morphological characteristics, but also carries the personal affective experience on a product. It is a comprehensive indicator of a product form. In the model of consumer responses to a product-oriented form proposed by Bloch, product form can initiate consumers’ cognition and affect (Bloch, P.H., 1999). Positive (negative) cognitive responses lead to positive (negative) affective responses, which further generate positive behavioural responses. Because a product style can initiate positive affect, consumer satisfaction can be accordingly enhanced significantly through improving a product style.

A product style is a key influencing factor of consumer satisfaction evaluation, but this influence shows significant individual difference. For the same product style, the differences in individual experiences, background and the familiar degree to the product will result in significant differences in evaluation results and ultimately affect the purchase decision. In previous studies on the relationship between a product style and a consumer, the evaluation change caused by individual differences was seldom studied. In the paper, the concept of product involvement (Keller, 1993; Poiesz T B C, 1995) was introduced to explore the effect of a product style on the improvement of consumer satisfaction. Moreover, the role of product involvement in the influencing relationship between a product style and consumer satisfaction was studied.

2. Theoretical background

2.1 Product Style

As the manifestation form of a series of design elements obtained according to different constitution methods, a product style implies the significance and social and cultural connotations of a product and has become the main carrier of the mental functions of a product. As an important component of consumer affective cognition, product style orientation has become a key factor for distinguishing consumer markets.

Physical form features and psychological imagery features are two important components of a product style. Physical form feature including shape, material, colour, and texture is the physical existence of a product formed during its manufacturing process. Imagery feature is the psychological feeling to a product. These psychological feelings can be expressed as some adjectives, such as ceremonious, gorgeous, and balanced, and belong to consumers’ psychological experiences produced after consumers’ self-interpretation of a product.

A product style is the most direct media of a product contacting with a consumer. A product style can initiate affective reactions and result in a deeper affect, consciousness, and understanding, which are intertwined with personal experiences and cultural background of a consumer to generate psychological identity to the product. In this way, consumer satisfaction of a product is improved. The aesthetic value from a product style can be divided into three levels. The higher aesthetic level may initiate the more intense affective reactions. On the contrary, a product style with the lower aesthetic level may initiate the weaker affective reactions (Rosemary R., 2007).

2.2 Consumer satisfaction

Consumer satisfaction is the feeling to a product or service satisfaction obtained by a consumer after he/she has purchased and used a product or accepted a service. There is a mutual influence between consumer satisfaction and the market share of a product. The higher consumer satisfaction will result in the increase in the sales. On the contrary, although the lower consumer satisfaction will lead to the decrease in the sales, satisfied consumers will still retain. The long-term consumer satisfaction is mainly reflected in consumer loyalty. Consumer satisfaction has a positive effect on consumer loyalty. Consumer satisfaction of a product
is mainly reflected in the following four aspects: consumer expectations, quality of perception, consumers’ affect to a product or brand, and consumers’ equity judgments (Sprang R.A., 1993).

Quality of perception, consumers’ feeling and the perceived value of a product are positively correlated to consumer satisfaction (Churchill G.A., 1982; Liljander V., 1997; Goodwin C., 1992). Product expectation may be positively or negatively correlated with consumer satisfaction (Woodruff R.B., 1983). The satisfaction study is based on the psychological characteristics of a population, which vary with the region and cultural background. Therefore, consumer satisfaction index models also show regional characteristics. In Chinese Consumer Satisfaction Manual in 2011 released by Consumer Satisfaction Measurement Centre in National Institute of Standardization of China, the satisfaction model includes four components: quality of perception, quality expectation, brand, and the perceived value of a product. In the paper, the satisfaction indicator classification method and satisfaction evaluation model in the manual was adopted.

### 2.3 Product Involvement

When a product is linked to the personal value evaluation system or self-concept of a consumer, product involvement forms. As shown in Fig.1, personal cognition, knowledge, experiences, interests, favours, values, and other psychological boundaries of a consumer are denoted as A; the appearance, brand, service, and other information presented to a consumer are expressed as B; the intersection between A and B is denoted as C. C represents the feeling of a consumer under the stimulus of various product information, product involvement. The involvement degree depends on the interpretation of the consumer to the stimulus (Warrington Patt, 2000). The deeper degree of product involvement can stimulate more attention and exploration desire of a consumer. This exploration desire is primarily from the perception that a product can meet the values and the pursuit of consumers (Westbrook R.A., 1979). Even for the same product, the degree of involvement shows the individual difference among consumers. The consumer with the high involvement degree may take the initiative to search product information and pay attention to product attributes, while the consumer with the lower involvement degree only passively receives product information or randomly captures information at best (Zaichkowsky J.L., 1986). However, in general, although the degree of involvement shows the individual difference among consumers, the general degree of involvement of consumers has the universal consistency (Warrington Patt, 2000). The degree of product involvement affects the difference in the quality of perception of a product and the specific brand preferences of consumers (Warrington Patti 2000).

![Diagram of product involvement](image)

### 3. Research hypothesis

According to the above analysis, product involvement positively affects in quality perception and expectations of a product and a product style is a key influencing factor of consumer satisfaction. The study aims to further explore the relationships among these factors and corresponding mutual influencing mechanisms. Consumers’ interest in a product and the acquisition process of product-related information forms product involvement, which will enhance consumers’ cognition for a product and product selection capability. When a consumer chooses a product with the low degree of involvement, he/she will collect the information of more brands to form the wide product selection scope. When a consumer chooses a product
with the high degree of involvement, he/she has already known more information about the product and is interesting about the product function. In this way, we hypothesis:

Hypothesis a: product style has a positive effect on consumer satisfaction, and the effect is regulated by product involvement.

Hypothesis b: product style has a significant effect on the perceived quality and expected quality of consumer satisfaction for the high product involvement consumers.

Hypothesis c: product style has a significant effect on the brand emotion and perceived value of consumer satisfaction for the low product involvement consumers.

The conceptual model is as shown in figure 2.

![Conceptual model](image)

**Figure 2. Conceptual model**

4. **Research methodology**

4.1 **Measuring method**

Three variables are studied in the present research, which are product involvement, customer satisfaction index and product style. The product involvement is studied by Banwari Mittal’ Likert five point measuring scale, and revised according to the researcher’s demand. Five points are adopted to measure the facts, which are “the product is very important to me”, “I am paying close attention to the product”, “the product has become a part of my life”, “the product is very important and meaningful to me”, and “I often compare different brand products”.

The measurements of customer satisfaction index is fulfilled by using the method of CSI (Consumer Satisfaction Index) model designed by Chinese Enterprise Research Center as shown in Fig. 2, which includes hidden variables, such as brand image, expected quality, quality awareness, value perception, and customer loyalty. The measurement scale is designed based on the evaluation model of CSI and scales in practical guidebook within the PRC’s national standards GB/T19038-2009.

Product style can arouse different emotional responses, which may affect the decision-making of purchase. The emotional responses aroused by product style is measured. The scale of product emotional responses was studied by TU Delft earlier, lots of studies had been performed on the reasons of product motivating emotion, and Emocards and PrEmo product emotion measurement tools had been proposed. The Emocards measurement method can survey consumer’s affective style and call level. This paper adopts Emocards measurement scale to study the emotion styles, as shown in Fig. 3.

![Strip layout of Emotional card](image)

**Figure 3. The Strip layout of Emotional card**
4.2 Data collection

A convenience sample is adopted in this study, which is acquired by questionnaire inquiry randomly at a university of Xi'an, China. In order to ensure the accuracy and authenticity of the survey of product satisfaction, every subjects in the study were asked to fill the questionnaire about their mobile phone. The morphological characteristics of mobile phone is used to devide the type of product style. In order to not affected by the professional background, various students with different professional background have been surveyed. The questionnaire was recovery on the spot, and recovery rate is 100%. 300 questionnaires had been sent out, 292 is valid, and the effective percentage reaches 97.3%.

5. Investigation results

5.1 Reliability and validation analysis

The reliability analysis adopts the method of Cronbach factor Measurement, SPSS 19.0 has been used to count the Cronbach’s α reliability coefficient, as shown in table 2. Although the perceived quality fails to reach the standard of 0.7, the perceived quality includes the appearance, quality, availability and maintenance from the measurement items, whose reliability is higher. According to Ref. (Huaizu LI,2004), the overall reliability of data can be accepted when the perceived quality reach the standard of 0.6.

5.2 Hypothesis testing

Combine with principal component analysis and factor analysis, the hypothesis has been tested. By using the method of principal component analysis, every variable has been analysed, and the multiple regression results of product style emotion show that four different types of CSI regression coefficient are different, but T>2, P<0.05, the results are significant. Therefore, the hypothesis of product style emotion affecting on CSI positively is true, Ha is accept.

Table 1. Multiple regression analysis of product style on the consumer satisfaction

<table>
<thead>
<tr>
<th>Independent variable: product style emotion</th>
<th>model</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>Sig</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component F</td>
<td>0.662</td>
<td>12.024</td>
<td>0</td>
<td>0.439</td>
<td></td>
</tr>
<tr>
<td>perceived quality</td>
<td>0.589</td>
<td>9.923</td>
<td>0</td>
<td>0.347</td>
<td></td>
</tr>
<tr>
<td>product expectation</td>
<td>0.420</td>
<td>6.287</td>
<td>0</td>
<td>0.176</td>
<td></td>
</tr>
<tr>
<td>Brand image</td>
<td>0.520</td>
<td>8.276</td>
<td>0</td>
<td>0.270</td>
<td></td>
</tr>
<tr>
<td>Value perception</td>
<td>0.377</td>
<td>5.532</td>
<td>0</td>
<td>0.142</td>
<td></td>
</tr>
</tbody>
</table>

5.3 Impact Evaluation

All the questionnaire data have been substituted in the product involvement, which can be calculate the regulating effect of product involvement on the product emotion and CSI by regression analysis. T=1.533, sig>0.05, the results is insignificant, the regulation hypothesis of product involvement Ha is declined. It is noted that after excluding the data below value of 2, T=3.653,sig=0, the results is significant and the regulation hypothesis Ha is true.

The multiple regression results of product style on high product involvement group shows that: the involvement regulation is significant and the influence of perceived quality, quality expectation, and value perception is significant for high involvement consumers, as shown in Tab.2. Hypothesis Hb is accept.

The multiple regression results of product style on low product involvement group shows: the regulation of the effect is not significant, Hypothesis Hc is reject.

Table 2. The multiple regression results of product style on high product involvement shows

<table>
<thead>
<tr>
<th>Independent variable: product of style emotion and involve</th>
<th>model</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component F</td>
<td>0.568</td>
<td>3.605</td>
<td>0</td>
<td>0.114</td>
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</tr>
<tr>
<td>Component F</td>
<td>0.538</td>
<td>3.467</td>
<td>0.001</td>
<td>0.147</td>
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</tr>
<tr>
<td>perceived quality</td>
<td>0.522</td>
<td>3.125</td>
<td>0.003</td>
<td>0.097</td>
<td></td>
</tr>
<tr>
<td>product expectation</td>
<td>0.223</td>
<td>1.330</td>
<td>0.188</td>
<td>0.042</td>
<td></td>
</tr>
<tr>
<td>Brand image</td>
<td>0.409</td>
<td>2.358</td>
<td>0.021</td>
<td>0.078</td>
<td></td>
</tr>
</tbody>
</table>
6. Conclusions

Based on the effect of product style on the product satisfaction evaluation, a variable of product involvement has been introduced. After tested by practical examples, conclusions is as follows:

Product style emotion has remarkable influence on the product satisfaction. The positive emotions brought out by product style have positive and significant influence on the perceived quality, quality expectation, brand image, and value perception.

The effect of product style on consumers satisfaction is influenced by product involvement. The influence of perceived quality, quality expectation, and value perception is significant for high involvement consumers, while the influence of product style on the satisfaction will be unaffected for low involvement consumers.

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