

ATTRIBUTE TYPE AND PRODUCT MEANING ON NEW PRODUCT EVALUATION: THE ADDITIONAL MODERATING EFFECT OF NEED FOR COGNITION

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Attribute type and product meaning on new product evaluation: the additional moderating effects of need for cognition

Abstract

This study analyzes the effect of attribute type and product meaning on the consumer's evaluation of a new product, and how these effects are also moderated by the individual's need for cognition. To test the hypotheses regarding these effects, we used an experiment with a functional product and a symbolic product, to which two kinds of new attributes were added: product characteristics and attributes related to the image of the product. Compared to when a new image attribute is added, results show that the presence of new characteristics increases functional product evaluation. For symbolic products, the two kinds of new attributes add the same value to the new product. Unexpectedly, need for cognition had no effect on new product evaluation improvement.

Keywords: new product evaluation; functional products; symbolic products; need for cognition

1. Introduction

Companies all over the world managed to introduce 31,785 new food, beverage, health & beauty aids, household and pet products during 2002. It is estimated that more than 80% of those products fail, wasting a lot of money (Marketing Intelligence Service, Ltd., 2003). Market success depends on the consumer's response to products, which is motivated by the consumer's adoption and, to a large extent, by the evaluation of the new products. A way to reduce failure rates is to identify the factors that influence product evaluation.

The introduction of new attributes is one of the most common methods for developing new products. The impact of a new feature depends on four factors: 1) characteristics of the feature itself, 2) characteristics of the product to which the features is added, 3) characteristics of the buying task, and 4) other factors, such as the marketing strategy or the competitive and social environment (Nowlis and Simonson, 1996). Besides the important stream of research which have analyzed the impact of new attributes on new products evaluation (Mukherjee and Hoyer, 2001; Brown and Carpenter, 2000), little is known about the interaction effects of those attributes and other factors. Focusing on the first two factors proposed by Nowlis and Simonson (1996), we propose that the impact of a new feature on new product evaluation must be analyzed considering not only the type of attribute (AT) and the product meaning (PM) as intrinsic elements to the product development, but also by individual characteristics, such as the need for cognition (NFC).

This study analyzes the effect of attribute type and product meaning on the consumer's evaluation of a new product, and how these effects are also moderated by the individual need for cognition. The first part of the paper presents a review of the relevant literature on attribute types and product meaning in new product evaluation. A set of hypotheses regarding the effects of those variables on new product evaluation and the moderating role of NFC are then developed. We also report on a description of the method used to test these hypotheses. Finally, the results of the empirical study and main conclusions of the findings are presented.

2. Attribute type and product meaning on new product evaluation

Attribute type

Although marketing literature has analyzed different attributes of products, Lefkoff-Hagius and Mason (1993) concluded that product attributes presented in marketing research (Hauser and Clausing, 1988; Hirschman, 1980) could be classified into three types: characteristics, beneficial, and image. These authors defined characteristics as those attributes related to physical properties, beneficial attributes as those related to the task or outcome referent, and image attributes as those which permit consumers identify themselves with a group, or represent their self-image. More recent classifications, as those presented by Veryzer (1998) and Michaut et al. (2002), are somehow equivalent to Lefkoff-Hagius and Mason's classification.

Previous research has shown that there are important links among the attributes types, in particular, physical characteristics are often causally linked to beneficial attributes (Lefkoff-Hagius and Mason, 1993), and also a scarcity of studies analyzing the effect of image attributes on consumer behaviour (Hogg et al., 2000). Based on this, we introduce in our study two types of product attributes, characteristics and image attributes. Image attributes as those that possess symbolic meaning (Meenaghan, 1995), and are related with visual (Eckman and Wagner, 1994) and promotional aspects. Characteristics as physical product attributes which offer benefits.

Product meanings

The type of product plays an important role in consumer evaluation. One of the most accepted classification distinguishes two kinds of products, functional or utilitarian and symbolics. These arise as a result of the existence of two individual necessities, functional ones, related to specific problems, and symbolic ones, that are the expression of self-image and social identification (Park et al., 1986). Then, functional products are those that possess some tangible characteristics that offer benefits to consumers (Fournier, 1991; Park et al., 1991; Bhat and Reddy, 1998; Kempf, 1999; Addis and Holbrook, 2002; Del Río et al., 2001) or have the ability to accomplish specific acts, based on properties such as its physical characteristics and features (Fournier 1991). Symbolic products are used to signify social position and/or self identity, not for functional benefits (Hirschman, 1981; Levy, 1959).

Although functional and symbolic concepts are different (Del Río *et al.*, 2001; Bhat and Reddy, 1998; Park *et al.*, 1986), a product can possess both meanings, existing a continuum where the product has a different level of each (Gotzsch, 1999; Fournier, 1991). However, it is important to emphasize that product meaning is not determined by the type of product. The role of the product depends, at least partly, on whether the consumer views the product on a functional or symbolic level (Fournier, 1991) and, in particular, by human values. Individuals' preference for values, like prestige or social recognition, would lead their attention to symbolic aspects of the product, and the product will have likely symbolic meaning. Individuals who choose products that provide some benefits more successfully, will stress the functional meaning (Allen et al., 2002; Ligas, 2000; Allen and Ng, 1999; Burroughs, 1996; Fournier, 1991).

Effects of product meaning and attribute types on new product evaluation

There is disagreement in literature related to the importance of two kinds of attributes on product evaluation. Some authors, as Meenaghan (1995), Eckman and Wagner (1994), and Michaut et al. (2002), concluded that consumers tend to show a higher preference for image

attributes than for functional aspects of the product. However, Hirschman (1987) and Moreau et al. (2001) concede more significance to technological and performance aspects.

This discrepancy can be explained in the product meaning. Some studies related to the effect of different attributes on product evaluation observed a greater impact of brand name than product benefits on products with symbolic meaning (Del Río et al, 2001) and found that functional products tend to be evaluated on tangible features and cost, then secondarily on their intangible/image attributes (Sirgy and Johar, 1985). Furthermore, in their study centered in brand extensions, Park et al. (1991) found more favourable consumers' reaction when new attribute is consistent with brand concept. Consumers display a more positive reaction to functional than prestige extensions for functional brands, and to prestige than functional extensions for prestige brands. Therefore, applying this consistency to the combination of attribute types and product meanings as described above, we propose:

H1: Compared with the case where the new attribute is absent, the presence of a new characteristic in functional products improves product evaluation more than the presence of a new image attribute.

H2: Compared with the case where the new attribute is absent, the presence of a new image attribute in symbolic products improves product evaluation more than the presence of a new characteristic.

3. Need for Cognition and its effects on new product evaluation

Information processing interest will affect consumer's new product judgements (Wood and Swait, 2002). Related to it, need for cognition (NFC) is defined as the tendency of individuals to engage in and enjoy thinking per se (Cacioppo and Petty, 1982). It is not a level of intellectual capability, but a tendency to process information that has an influence in product and attribute evaluations.

Advertising researchers have found that high NFC individuals would likely be oriented towards message-relevant and quantifiable thoughts, like quality of the attributes claims, rather than peripheral cues, such as endorser attractiveness, while low NFC individuals tend to be influenced by other advertising symbolic aspects, like celebrity status (Haugtvedt et al., 1992; Petty et al., 1983). In terms of processing styles, individuals with high NFC tend to process information in a more elaborate way and engage more in attribute-based processing than are their low NFC counterparts, who rely on attitudes, first impressions and peripheral cues (Baumgartner, 1993; Mantel and Kardes, 1999).

Characteristics are quantifiable and need high processing in order to relate them with the benefits they produce, while image attributes are related to emotional and aesthetic aspects and need less analysis. Thus we propose:

H3: Compared with the case where the new attribute is absent, the presence of a new characteristic improves product evaluation more than the presence of a new image attribute for high NFC individual and less for low NFC individual.

Furthermore, functional products are evaluated in terms of their capacity to solve problems or fulfil some task, therefore their evaluation is associated with more analysis efforts than symbolic products which responds to emotional necessities. Considering both product meaning and attribute type, high NFC individuals will process more information and will give a higher

evaluation to functional products to which a new characteristics have been added. Then, we propose:

H4: For high NFC individuals, the difference between product evaluation improvement by introducing additional characteristics and image attributes is higher for functional products than for symbolic products.

4. Method

A questionnaire was administered to choose a functional and a symbolic product. Forty students were asked to evaluate the functional and symbolic meaning of some products (Allen and Ng, 2002; Allen and Ng, 1999). The most functional product was the personal computer and the most symbolic one was the casual sport shoes. To distinguish between characteristics and image attributes, a pretest was conducted with sixty students to classify a list of forty-eight attributes related to PCs, and twenty related to the casual sport shoes. Students classified each attribute either as characteristic or image attribute. In order to choose the new attributes, a new pretest was conducted to select the most evaluated ones in both categories and for both products.

To test the hypotheses above, one hundred and seventy six students participated in the 2 x 2 x 2 experiment, high NFC vs. low, and manipulating the product (functional/symbolic) and attributes (characteristics vs. image) condition. Each individual completed two questionnaires, one for the functional product and another for the symbolic one, with the same attribute type manipulated. During the experiment, all participants first received a questionnaire booklet. The first page presented a personal computer, which provided eight attributes without brand name. The selection of attributes to include was based on the analysis of real ads and interviews with some experts. Participants were allowed to read this information at their own pace. Then, they were asked to evaluate the PC on six-item, seven-point scale anchored by “bad/good”, “like/dislike”, “not useful/usefull”, “desirable/undesirable”, “high quality/low quality”, “favorable/unfavorable” (Mukherjee and Hoyer, 2001; Peracchio and Tybout, 1996). After completing this initial evaluation, they were asked to complete some information related to product meaning and the NFC scale (Cacioppo et al. 1984). The last page showed a new PC. Fifty students evaluated a new PC with a new characteristic (Intel Pentium V) and forty-seven a new designed PC, presented with the slogan “Dimension 4600C, the PC for those who enjoy the future, nowadays” (Lefkoff-Hagius and Mason, 1993). A written note pointed out the novelty of the attribute. Therefore, the level of novelty of each new attribute was analyzed, and they obtained very similar values. A few days later, participants were given a similar booklet. The first page presented casual sport shoes with six characteristics but brand, and participants were asked to evaluate this product. Subsequently, participants were asked to complete some information related to product meaning. At the end of the questionnaire, other casual sport shoes were showed. A total of forty-three students were provided with the questionnaire with the new sport shoes with a new characteristic (Ultralite midsole) and forty-six were provided with new designed shoes presented with the slogan “Columbia 23, for those who want something different”. All model names were fictitious. Although real products did not have the combination of characteristics set in the questionnaire, all of the attributes are real and exist in the market.

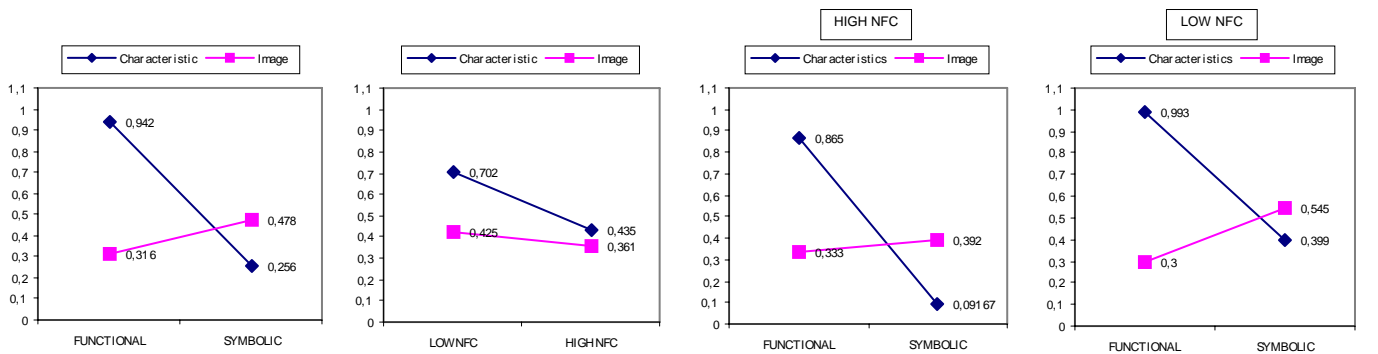
5. Results

ANOVA analysis was used test the hypotheses. Results show that the effect of attribute types ($F(1, 172)=3.653$, $p < 0.10$), product class ($F(1,172)=6.138$, $p < 0.05$) and their interaction ($F(1,172)=16.144$, $p < 0.001$) were significant and resulted on the expected direction. The

improvement on evaluation of functional products because of the additional introduction of a new characteristic was higher than because of the addition of a new image attribute ($F(1,85)=18.896$, $p<0.000$), providing support to hypothesis 1. For the symbolic product, the presence of the new image attribute was more valued than the added new characteristic, but that difference was not significant ($F(1,89)=2.083$, $p=0.153$), and hypothesis 2 was not supported.

In order to test hypotheses 3 and 4, the sample was divided in two levels of NFC. High NFC level was attributed to those individuals who scored higher than NFC median. The rest were low NFC. Neither the main effect of NFC ($F(1,172)=2.190$, $p=0.141$), nor the effect of attribute type ($F(1,172)=2.473$, $p=0.118$) or the interaction effect between NFC and attribute type ($F(1,172)=0.827$, $p=0.364$) were significant. Marginal means showed that product evaluation improvement was higher when the new characteristics had been introduced than when adding the image attribute for both, high and low NFC, with a significant difference for the last ($F(1,96)=3.127$, $p<0.10$), so hypothesis 3 is not supported. Consistent with hypothesis 4, the effects of new characteristics is significantly higher than the effect of new image attributes for functional products ($F(1,36)=5.817$, $p<0.05$) but not for symbolic products ($F(1,38)=2.515$, $p=0.121$) for high NFC. Although there was no proposed hypothesis related to the interaction effect of attribute types and product meaning for low NFC individuals, results show the same pattern than high NFC (see figure 1). Neither the two two-way interactions involving NFC nor the three interaction were significant.

Figure 1. Effects of new AT, PM and NFC on Product Evaluations Improvements



Conclusions and implications

The findings of our study show that the effect of a new attribute on product evaluation is moderated by product meaning. More specifically, the effect of a new characteristic on product improvement is higher than the effect of a new image attribute for a functional product, not existing differences for symbolic products. Also, we found that there is no moderating effect of NFC on the impact of attribute type on product evaluation. Analyzing high NFC and low NFC independently, we found the same interaction effect of product meaning and attribute type explained before. A possible explanation for these results is that we have manipulated only one characteristic with a benefit associated, which implies a real benefit (while the image attribute needs also credibility) and a change of product easy to process given that only one attributed has been change. Therefore, low NFC individuals can also process this new piece of information understanding the advantage of the new attribute. The effect could be different under a situation in which more than one attribute are modified. In summary, these findings show that it is recommended for functional products to include new characteristics, because the improvement of product evaluation is higher than when an

image attribute is included. It is also interesting to note that both attributes equally contribute to new product evaluation for symbolic products, which means that (1) new benefits always represent advantage for the product; and (2) that companies have to consider mainly the cost of developing new attributes for symbolic products when deciding the attribute to develop.

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