Full Paper
Automobile as Anthropomorphized Products: An Examination of Possibilities to Customizing Cars' "Faces"

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Recent studies on product design have proposed that consumers most prefer cars with headlights that resemble slanted eyes and a front grille that looks like an upturned mouth. However, these studies have three problems: (1) they only considered 2 (slanted and arched eyes) × 2 (upturned and downturned mouths) designs, (2) they only considered two dimensions of product images (aggressiveness vs. friendliness), and (3) they neglected heterogeneity in preferences for product designs/images. Thus, we expanded these studies by considering 4 (slanted, arched, squared, and round eyes) × 3 (upturned, downturned, and horizontal mouths) designs and four dimensions of images (vitality, warmth, intelligence, and uniqueness) as well as congruities between product image and actual/ideal self-image. We contribute to the research field of product design by indicating how firms can fit their anthropomorphized products to their customers and differentiate them from competitors.

Introduction

In recent years, it is getting more difficult for firms to attract consumers' attention through technological innovation alone. Given this backgrounds, product design is increasingly being recognized as an important source of competitive advantage by many firms. "Anthropomorphism" is one recent research topic regarding product design. Anthropomorphism refers to seeing human features in non-human objects.

Automobiles are a good example of anthropomorphized products. People interpret headlights as human eyes and the front grille as a human mouth. It has been proposed that anthropomorphism can enable firms to convey brand personality to consumers intentionally (Landwehr, McGill, and Herrmann 2011). However, automobile manufacturers have not provided their customers with the chance to change the cars' faces in their customization system. It is possible for customers to choose the 'best' car among various choices with different colors, engines, seats, and wheals; it is not possible to choose favored headlights and front grilles to "build your own car".

In this regard, previous research on the anthropomorphism of products has suggested that cars with a particular face—slanted (aggressive) eyes and an upturned (friendly) mouth—are most preferred by consumers (cf. Landwehr, McGill, and Herrmann 2011). Is it really true? Is it necessary for automobile manufacturers to develop a customization system that enables customers to order their cars' faces? In this study, we attempted to develop a consumer evaluation model of anthropomorphized products to address these questions.

Literature

Landwehr, McGill, and Herrmann (2011) used the pleasure-arousal theory of emotions (Russell 1980, 1989) and claimed that consumers prefer cars with "slanted" headlights and an "upturned" grille. This is because perceived "aggressiveness" from the slanted headlights triggers arousal whereas perceived "friendliness" from an upturned grille triggers pleasure. As a result of their experiment, the hypothesis was supported.

However, their study has three problems. First, they compared four kinds of car fronts, with a 2 (arched and slanted headlights) × 2 (upturned and downturned grilles) design. However, some automobiles in the real world may not fall into any of their four faces. Second, they assumed only two personality traits, friendliness and aggressiveness, which are perceived from the front of a car through anthropomorphism. However, some automobiles in the real world may have other kinds of car personality. Third, and most importantly, they neglected heterogeneity

in consumer preferences of anthropomorphized products. While they suggested that a car with slanted headlights and an upturned grille is most preferred by consumers, some consumers in actual may prefer cars with other faces.

Assuming heterogeneity in consumer preferences of automobiles, the question remains as to why consumers choose different car faces. This question has not been answered by previous studies on product anthropomorphism.

Study 1: Identification of Personality Dimensions Perceived from the Front of a Car

In Study 1, we investigated twelve (4 × 3) patterns of car faces with 114 personality traits based on Aaker's brand personality (1997). Respondents were 227 university students; 216 (95.15%) responses were valid. Before answering the questionnaire, they were instructed to think of each car as if it was a person. To identify a set of personality dimensions perceived from car faces, we conducted an exploratory principal factor analysis with a promax rotation. As a result, we identified four personality dimensions—vitality, warmth, intelligence, and uniqueness—whereas previous studies have used only two, aggressiveness and friendliness. It can be said that vitality and warmth correspond to aggressiveness and friendliness, respectively. However, intelligence and uniqueness are two dimensions that have not been considered in previous research. Factor loadings implied that the shape of the headlights strongly affected the levels of the four personality dimensions: arched headlights caused a higher level of "uniqueness", slanted headlights caused a higher level of "vitality", rounded headlights caused a higher level of "warmth", and squared headlights caused a higher level of "intelligence".

Study 2: Relationship between Congruity and Preference

In Study 2, we assumed heterogeneity in consumer preferences and investigated whether congruity between self-concept and product image (Sirgy, 1985) affected preferences for the product. The questionnaire was designed to measure (1) actual/ideal personalities of their own, (2) personality dimensions of each of the twelve (4 × 3) patterns of car faces, and (3) preferences among those faces. Respondents were 59 university students; 58 (98.31%) responses were valid. After we collected the data set, self-congruity and ideal congruity were calculated based on Sirgy (1985). The results of regression analysis showed that consumer preferences for the car face are higher, if self-congruity and/or ideal congruity between self-concept and the product images are higher. They also indicated that ideal congruity has a stronger positive effect on consumer preference than self-congruity.

Conclusions

The findings of Study 1 imply that a car with slanted eyes and an upturned mouth is most advantageous in relation to the trait of vitality. However, some other "faces" are advantageous in other personality dimensions. A car with round eyes and an upturned mouth is more advantageous in relation to warmth, a car with squared eyes and a horizontal mouth is more advantageous in relation to intelligence; and a car with arched eyes is advantageous in relation to uniqueness. So, which is the most preferred face? As suggested by previous research, consumers may prefer cars with slanted eyes and an upturned mouth, if they are or want to be, a vital or aggressive person. However, the findings of Study 2 indicated that consumers choose cars that have high congruity with their ideal or actual self-image. Thus, consumers who are or want to be a warm or friendly person prefer cars with round eyes and an upturned mouth, consumers who are or want to be an intelligent person prefer cars with squared eyes and a horizontal mouth, and consumers who are or want to be an unique person prefer cars with arched eyes.

References

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