The Relationship Between Design Typicality, Novelty and Aesthetic Judgments

Marielle E.H. Creusen, Delft University of Technology
Jan P.L. Schoormans, Delft University of Technology
Robert W. Veryzer, Rensselaer Polytechnic Institute

The preference-for-prototypes theory states that consumers aesthetically prefer typical, easy to classify objects. However, empirical support for this theory is mixed. Two studies show that next to a preference for prototypes, there is an independent effect of novelty on aesthetic preference, and that novelty variation may suppress the effect of typicality on aesthetic preference. The second study predicted - but did not find - that the novelty effect is based on a slower, more effortful evaluative process. We conclude by discussing the possibility that the novelty effect is also based on fast automatic processing, based on higher attention and surprise-induced arousal.

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/13734/eacr/vol7/E-07

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SESSION OVERVIEW

There is widespread recognition that design offers a potent way to position and differentiate products, as competition intensifies and technological differentiation becomes more difficult. Some argue that “design is the factor that will often give a company its competitive edge” (Kotler, 2003). Researchers have made important advances into understanding the cognitive and emotional processes underlying consumers’ reactions to product design (e.g., Bloch 1995; Cox and Cox 1994; Creusen and Schoormans, 2005; Holbrook 1986; Sewall 1978; Veryzer and Hutchinson 1998); however, many fundamental questions still require study in order to advance the study of consumer research on design response.

One aspect of product design is product appearance. Product appearance is often ignored in consumer research. However, the appearance of a product is salient in many purchase situations, and even influences decisions for industrial products (Yamamoto and Lambert, 1994). This means that a better insight into the effect of product appearance on consumer product choice is highly relevant. This session hopes to make consumer researchers and practitioners more aware of the importance and influence of product appearance in consumer product choice and increase interest in investigating issues in product appearance as related to consumer behavior. In addition, insight into the influence of product design on consumer preference expands our insight into product preference formation. For practitioners, the session gives some insight into the influence of design characteristics on consumers’ perception of aesthetics, functions, quality and usability.

The papers in this session try to give some guideline to attain the design (appearance) of a product to consumers (all studies are completed). The first paper shows that visual complexity and symmetry in a design influence consumer preference, but that this relation depends on the product aspect that is important to consumers—aesthetic attractiveness, number of functions, quality impression or ease of operation. For product appearance, it can influence the perception of all these aspects (Bloch, 1995; Creusen and Schoormans, 2005). The product aspect that is most important to the target group of consumers should therefore be the starting point in design. This study is an addition to existing research, which mostly focused on the influence of design characteristics on aesthetic value. In the second paper, the influence of another kind of variables—namely design novelty and prototypicality—on aesthetic preference is investigated. The unequivocal results about the relationship between typicality and aesthetic preference in the literature is explained by the effect of another variable: design novelty. Typicality and novelty are both found to have an independent effect on aesthetic preference, even though the two constructs are highly negatively correlated. This means that products with an optimal combination of typicality and novelty will be preferred aesthetically. This optimal combination may depend on the target group of consumers and the kind of product. The third paper stresses that design should not discriminate against certain groups of people. This philosophy is called “Universal Design” and leads to products that can be used, to the greatest extent possible, by everyone. This session gives insight into the influence of product design on consumer preference.

As a second step, we investigated whether the importance of these aspects differed with age, gender and educational level. In order to investigate our research questions, we selected black-and-white pictures of the front side of existing video recorders (VCR’s). We needed stimuli that scored either high or low on each principle so that we could fill each of four cells in an orthogonal factorial design. In order to fill the four cells with two VCR’s each (a total of eight), the VCR’s were judged on their amount of symmetry and visual complexity in a pilot study. In additional pilot studies, we tested, digitally changed and tested these VCR’s until all cells were filled. In the main study, 422 members of a consumer household panel indicated their preference for the eight VCR pictures on a seven-point scale ranging from ‘low...
preference’ to ‘high preference’. Their gender, age, and education were known. They also indicated the importance of several aspects in their preference judgments: aesthetic attractiveness, product quality, number of functions, and ease of operation.

We found that the two design principles had a significant influence on preference for the VCR’s. Visual complexity was most important in subjects’ product evaluation. Respondents preferred high symmetry and low complexity. However, the preference for these two design principles differed depending on the aspects that subjects considered in making their preference judgments. Judgments about the number of functions, ease of operation, product quality, and aesthetic attractiveness, were all related to the complexity of the product appearance. A complex VCR looks like it has more functions, appears to be of high quality, but also looks less easy to operate. This is probably largely due to the number of buttons, which was an important factor influencing visual complexity. A less visually complex VCR is valued from an aesthetic point of view. Symmetry of the product appearance did not influence the perceived number of functions or perceived quality. However, it did influence perceived ease of operation; subjects for whom ease of operation was important preferred less symmetrical VCR’s. Indeed, one can imagine that buttons are more easily differentiated when they are differentiated in their location on the VCR front, that is, not divided symmetrically. From the literature, one would expect symmetry to be more important for subjects who paid attention to aesthetics. A statistical trend was found in support of this.

The importance of the product aspects—aesthetic attractiveness, perceived number of functions, quality impression and perceived ease of operation—differed with gender, age and education. In addition to importance of the number of functions, subjects indicated whether they prefer a small, average or large amount of functions. We found that males prefer more functions than females, consistent with Henry’s finding that males employ more functionally oriented purchase criteria (Henry, 2002). Furthermore, the number of functions and ease of operation was more important to older subjects. There is a statistical trend that older subjects want fewer functionalities on a VCR. Quality impression was more important to young than to old subjects. In addition, aesthetic value was more important to younger subjects, consistent with Henry’s finding that expressive orientation in product purchases declines with age. We furthermore found that the number of functions and ease of operation was more important with lower educational level. However, these effects disappeared when age group was included in the same analysis (educational level and age correlate negatively).

In conclusion, subjects preferred products that exhibit high symmetry and low complexity. However, the preference for these design principles differed with the product aspects that subjects considered in their preference judgments. This gives a more detailed insight into the influence of symmetry and visual complexity on product preference, as until now only the influence of these principles on aesthetic value has been investigated, while we also included functional aspects. So whether low or high visual complexity and symmetry should be used in a design depends on the product aspect that is most important to the target group of consumers. We identified differences in aspect importance between age, gender and educational groups. These findings give some guidelines for attuning the product appearance to specific target groups. This research advances our understanding of the influence of design principles on consumer responses to real products. Yet, more work is needed to further our understanding of the relationship between design characteristics and consumer responses.

References

“The Relationship Between Design Typicality, Novelty and Aesthetic Judgments”
Dirk Snelders, Delft University of Technology
Paul Hekkert, Delft University of Technology

According to the preference-for-prototypes theory (Whitfield and Slatter, 1979) there is a positive relationship between typicality and aesthetic preference, because people appreciate easy to classify objects. However, other links have also been proposed. These have been both U-shaped, with typical and a-typical (novel) exemplars being most preferred (Martindale 1996), and inverted U-shaped, with mildly a-typical exemplars being most preferred (Mandler 1982). Finally, the relation between typicality and aesthetic preference has also been criticized as being circular (Rosbelin, 1991), since preferred artifacts in a market will lead to higher demand, higher sales, and a higher frequency of exposure. Empirical evidence has been also mixed: positive relations were found for a wide range of products and works of art (Hekkert and van Wieringen, 1990; Pedersen, 1986; Purcell, 1984; Veryzer and Hutchinson, 1998). Yet, non-monotonic J- or U-shaped relations (Martindale, Moore, and West, 1988) and inverted U-shapes (Meyers-Levy and Tybout, 1998) have been reported as well, whereas in other studies no relationship was found (Hekkert and van Wieringen, 1992; Purcell, 1990).

In this paper, we look at the relationship between typicality, novelty and aesthetic preference. We propose that the relation between typicality and aesthetic preference explains one half of a combined effect, based on two evaluative processes: a) a fast automatic process where typical exemplars are preferred for their ease of processing, and b) a slower, more effortful process where novel exemplars are preferred for their surprising and thought provoking qualities (see also Hekkert, Snelders and van Wieringen 2003). Since the two evaluative processes are so different, they may have independent effects on judgment. But it may be difficult to show these independent effects because typicality and novelty are negatively correlated. The negative correlation with novelty may lead to a suppressed effect of typicality on aesthetic preference, and vice versa. In order to test this independent effect theory, two studies were carried out.

In the first study, 24 students rated 14 telephone models on a number of 9-point rating scales. The telephones were selected to