Brand logo design: examining consumers' responses to figurativeness

Abstract
In a previous investigation, aimed at studying brand identity preferences in a merger context, researchers found the most preferred logos are figurative ones. Additionally, results suggested the aesthetic appeal of the logo significantly influences consumers' identity choices. These results find support in logo strategy literature. The main purpose of this study is to investigate more thoroughly the influence of logo design characteristics, and particularly of figurativeness, on consumers' responses. In two studies, this research will try to shed light on consumer logo preferences, by investigating psychological properties of figurativeness. Firstly, this research will allow classifying a significant sample of international logos according to the figurativeness of logo design. Then, this study will evaluate affect towards logo design.

1.   Introduction

The logo is a key component of brand identity, since it is the most pervasive element in corporate and brand communications and provides instant recognition to the brand (Schechter 1993; Henderson and Cote 1998). Furthermore, logos are the official visual representations of the brand's meaning and play a crucial role in the communication of the brand's characteristics (Henderson and Cote 1998; Van Riel and Van den Ban, 2001).

Yet, despite the perceived importance of logo design in marketing communications and strategic brand management, empirical studies of logo design issues in marketing journals are rare. In particular, there is little systematic research on the effect of logo design on brand affect. This study seeks to address this research gap by examining consumers' responses to logo design, and specifically to figurativeness, at a psychological level.

The paper is set out as follows: we begin by reviewing relevant branding and logo literature, and discuss specific design theory relating to this study. Then, the research methods are described, results presented, limitations noted and research directions outlined.

2.   Theoretical Background

2.1   Brand logo

As a brand identity sign, a logo can refer to everal graphic or typeface elements, ranging from word-driven, i.e. including word marks or stylized letter marks, through to image-driven, i.e. including pictorial marks (Henderson and Cote 1998). In this study, the word "logo" refers to the graphical element that a company uses to identify itself or its products.

Prior research recognizes that logos play a critical role in brand building, because they act as the primary visual representation of the brand's meaning and offer summary information about the brand's marketing efforts (Henderson and Cote 1998; MacInnis *et al.* 1999). Logos are the most salient visual elements in a wide range of communication tools, ranging from packaging and promotional materials to business cards and letterheads (Henderson and Cote 1998; Walsh *et al.* 2010)**.** Thus, marketing managers can benefit considerably from understanding the principles of designing logos.

Theorists agree that well-designed logos should be recognizable, evoke positive affect and communicate a set of shared associations (Janiszewski and Meyvis 2001; Kohli *et al.* 2002).

Prior research suggests that brands with a greater aesthetic appeal provide the pleasure of visual gratification, and are also more likely to facilitate the formation of emotional bonds between the company in question and its customers (Bloch 1995; Goldman 2005). As aesthetic appeal and design becomes an essential component of marketing, it is important to determine the extent to which design elements such as figurativeness create positive affect.

2.2   Figurativeness of brand logo design and positive affect

Previous research in logo strategy has underlined the advantages of using pictorial or figurative logos. Schechter (1993) demonstrated that logos suggestive of a recognizable object add the most value to the brands they represent. Henderson and Cote (1998) also found that logos representative of objects that have familiar meanings are more effective at producing correct recognition and positive affect. Figurative forms are defined by the degree to which they depict commonly experienced objects, and may include inanimate objects (e.g. the Traveller's umbrella) and living organisms (e.g. Apple's apple).

According to semiotics, figurativeness and its opposite endpoint, abstractness, reflect the degree to which a sign depicts objects from the natural and sensitive world: a sign is abstract when there are no links to the sensitive world; in the opposite situation we would say that a sign is figurative (Greimas and Courtés 1993). Logos depicting places, animals, fruits or any other objects from the sensitive world demand lower learning efforts and are more recognizable (Henderson and Cote 1998).

These findings are supported by the recognized aesthetic primacy of natural forms in logo design. In fact, Veryzer's theory of aesthetic response suggests that individuals surrounded by a common, natural environment form similar non-conscious rule systems that inform their design preferences. To the extent that one can count on a common physical environment, one can also count on a broad range of commonly acquired likings (Veryzer 1999).

In this research we will use the term cultural logo design when referring to logos that depict manufactured objects (i.e., buildings, furniture, etc.), and natural logo design when referring to logos that depict objects from the natural world (i.e., flowers, fruits, animals, etc.).

Based on previous insights, we would predict differences in affective responses for consumers confronted with figurative compared to abstract logos. We would expect higher affect for logo designs that represent objects from the natural or real world versus logo designs that represent abstract objects.

3.   Method

Logos for this study were obtained by asking non-European researchers to suggest logos with a low probability of being recognized in Europe, and which are either abstract or figurative. They were given definitions of logo and also of figurative and abstract logo design. Additionally, the most important websites related with brand logo design were searched to identify logos representative of the different categories considered. A book with the most important logos ever designed (Evamy 2007) was also used to find suitable logos.

These three approaches resulted in the creation of a data base with 406 logos. Each logo was classified according to recognition and logo design. Logos that revealed total accordance among the researchers in logo recognition and accordance among three of the four researchers in logo design were included in this study. Logos were randomly selected for each category (unknown abstract/cultural/natural, known abstract/cultural/natural).

96 pre-selected logos were selected for this experiment (logos were used in their original colors). They were divided by 2 blocks of 48 logos to avoid respondents' tiredness. Each block was evaluated by at least 100 respondents recruited through a convenience method. This experiment was conducted using an online task and a total of 220 respondents participated. The sample which evaluated the first group of logos was composed by 113 respondents and the one which evaluated the second block of logos by 107 respondents.

A within-subjects design was used, so all participants were presented with several abstract, natural and cultural logo designs. Each participant evaluated 36 unknown logos and 12 known logos. A small sample of well-known logos was included in this study in order to avoid respondents' frustration when they are asked if they recognize the logos.

Respondents were first asked if they know which brand the logo represents (correct recognition). Then they were asked to categorize the presented logo as abstract, cultural or natural. In order to answer this question, participants were given definitions of abstract (i.e. "a logo that has no connection with the real world, is artificially constructed and non-representative (i.e., squares, rectangles, triangles, horizontal or vertical stripes, circles and dots, ovals and avoids, arcs and swooshes, and so on), cultural (i.e., "a logo representing manufactured objects (i.e., buildings, furniture, transport vehicles, everyday objects, writing

symbols, and so on) and natural logo designs (i.e., "logos representing objects from the natural world (i.e., flowers, fruits, vegetables, animals, faces, bodies, landscapes, and so on)). Following, affect was evaluated by asking respondents if they like/do not like the logo, using a 7 point semantic differential scale. To measure a latent variable such as affect preferably four or five should be considered. Although, in this study, we are measuring affect towards the different categories of figurative logo designs and towards unknown and well-known logos, and not to a specific object. Thus, we are measuring the latent concept affect towards at least four different objects representative of the same logo design category. We can say that this is equivalent to using different items, and this will allow us to capture the different facets of the affect to the different logo design categories analyzed.

The internal reliability of the constructs was measured with Cronbach's Alpha. T tests were used to compare the results obtained for the different groups, as well as a measure of effect size (Cohen's d). Furthermore, Pearson correlations were used to measure the correlations between the different dimensions. A p value of less than .05 was considered significant.

4.   Results

The analysis of the results from the first and second versions of this experiment demonstrates that a significant proportion of affect towards logos is explained by the figurativeness present in logo design. Indeed, in study 1 affect towards logos was explained in 53% by figurativeness, and in study 2 in 46%.

In both studies, the 11 dimensions calculated, based on logos affect scores and on the two factors considered (logo recognition and figurativeness) have values for the Cronbach's alpha over the generally recommended lower limit of 0.70 (Hair *et al*, 1998), indicating that all the items in each dimension form a single, strongly cohesive and conceptual construct. Furthermore, we should point out that, in both versions of this experiment positive and significant correlations were obtained among all the dimensions of the affect scores.

Results show that in both studies there are significant differences between the affect towards the three logo design categories. In fact, affect towards figurative natural logos is always significantly higher than affect towards figurative cultural logos, and affect towards these two types of figurative designs is always significantly higher than affect towards abstract logos.

In order to explore possible study samples' effects on logos' affect scores, several t tests were performed. Results show that there are significant differences between both versions of this experiment (Table 1). Affect towards abstract logos is significantly different in study 1 and 2, and abstract logos in study 2 have higher levels of affect. Affect towards cultural logos designs is also significantly higher in study 2. In regard to natural logo designs, there are no significant differences in terms of affect.

Although, we should point out that, some of the significant differences found could be due to structural differences in the characteristics of both samples, for example in gender, age and school years. Nevertheless, it is important to mention that natural logo designs are the ones better evaluated, both in study 1 and 2.

When we analyze the results for familiar logos in general, that is, independently of the logo design category, we do not observe significant affect differences between study 1 and study 2. Even though, the comparison of the results obtained for each logo design category, shows that the affect towards known abstract and known cultural logos is significantly higher in study 2.

When we analyze the results for unknown logos in general, we observe significant affect differences between both versions of this experiment. But, the analysis of the results for each unknown logo design category shows that there are only significant differences in respect to the affect towards unknown cultural logo designs. Indeed, unknown cultural logos in study 2

have higher affect scores than the ones in study 1. Results suggest that the participants in study 2 might have a higher affect towards logos.

Table 1: Affect scores by study

Dimensions	Study 1 M(SD)	Study 2 M(SD)	t(df) = value; p-value
AFFECT_ABS	3,18 (0,75)	3,39 (0,72)	t(218)=-2,08; p=0,039
AFFECT_FC	3,50 (0,71)	3,78 (0,77)	t(218)=-2,76; p=0,006
AFFECT_FN	3,79 (0,82)	3,88 (0,79)	t(218)=-0,86; p=0,391
AFFECT_K_ABS	3,76 (0,85)	4,05 (0,87)	t(218)=-2,47; p=0,014
AFFECT_K_FC	4,12 (0,81)	4,5 (0,83)	t(218)=-3,38; p=0,001
AFFECT_K_FN	4,19 (1,00)	4,3 (0,85)	t(218)=-0,86; p=0,389
AFFECT_U_ABS	2,99 (0,82)	3,18 (0,76)	t(218)=-1,84; p=0,068
AFFECT_U_FC	3,29 (0,78)	3,52 (0,84)	t(218)=-2,03; p=0,044
AFFECT_U_FN	3,65 (0,88)	3,74 (0,85)	t(218)=-0,75; p=0,453
AFFECT_UNKNOWN	4,02 (0,77)	4,28 (0,73)	t(218)=-2,52; p=0,012
AFFECT_KNOWN	3,31 (0,77)	3,47 (0,73)	t(218)=-1,57; p=0,117

5. Discussion

This study confirms the advantages of using figurative logos (Henderson and Cote, 1998; Schechter, 1993). Our findings suggest that figurativeness is an essential logo design element, which influences affective response to the logo. Indeed, in both studies of this experiment, figurativeness explains a high percentage of affect towards the logos. Moreover, the practical significance of figurativeness is similar in both studies, which means that affect towards logos is significantly explained by figurativeness.

Previous research in logo strategy has underlined the advantages of using pictorial or natural (figurative) logos, but to our knowledge no study has differentiated between the different type of figurative logo designs. First, this research allowed classifying a significant sample of international logos according to the figurativeness of logo design. Then, this study evaluated affect towards the different categories of figurative logo design. Thus, this research contributes to the literature by increasing our understanding of the influence of the different categories of figurative logo designs on affective response. In this study, we discriminated between natural and cultural logo designs and this distinction lead to important findings, complementing research in semiotics (Greimas and Courtés 1993), and also in logo strategy (Henderson and Cote 1998) and the theory of aesthetic response (Veryzer 1999). Results show that natural logo designs are always the ones better evaluated, followed by cultural designs. Abstract logos are always worse evaluated by the respondents.

On the other hand, our findings indicate that affect towards the different categories of logos is positively related, and thus when a person likes one category of logo design better, he or she will also tend to like the other categories more (and vice-versa). These results suggest that some persons have more affect towards logos, and will tend to evaluate logos better, independently of the design category presented, or on the fact that the logo is unknown or from a well-known brand.

Furthermore, results show that the strongest positive correlation exists between the affect towards the two categories of figurative logos (natural and cultural). In fact, by squaring the average correlation value, we conclude that 64% ($R^2 = 0.64$) of the evaluation of the cultural logos is explained by the evaluation of natural logos (and vice-versa).

Results of the first version of this experiment suggest there might be a positive correlation between age and affect towards several categories of logos, and that as age increases people tend to demonstrate a higher affect towards the various logo designs. The highest correlation was observed between age and cultural logos, in study 1. This is an interesting result, because

cultural objects are learned throughout our lives. Yet, these results were not confirmed in the second study. Thus, we will need to further investigate the effect of age on affective response to logo design.

There are differences in terms of affect score by gender between the two studies. These differences might be related with the different proportions of female and males in study 1 and 2 (females: 60.2% in study 1 and 44.9% in study 2).

6.   Limitations and directions for further research

There are some limitations of the study that bear mention. First, we should refer the samples sizes and the fact that there are significant different proportions of female and male in the two studies. It would be worthwhile to further examine the effect of the figurativeness of logo design on affective responses using more homogeneous and representative samples. Second, we measured affect towards the logos through one dimension only (like/do not like), and to measure a latent variable such as affect, we need to consider at least two items. However, in this research, we are measuring affect towards three different categories of logo designs and towards unknown and known logos, thus we are measuring affect towards minimum four different objects. Nevertheless, further research should focus on more deeply analyzing affective responses to the figurativeness of logo design.

The findings regarding consumer logo preferences will be analyzed more thoroughly in two replication studies that will investigate reactions to the figurativeness of logo design across different cultures. Jun and Lee (2007) highlight the relevance of visual elements to generate corporate identity, but marketing research on this topic is scarce and concentrates on the differences in graphic designs composing corporate visual identity across cultures (USA versus Korea). Close studies, like Madden *et al* (2000), focus on research on color meanings and preferences across cultures. In the same vein, Giarratana and Torres (2007) study the link between brand performance and cultural primes in high-risk, innovation-based sectors.

In this paper we present the results for Portugal, but we are actually replicating the study in Spain and in The Netherlands. These countries show heterogeneity for the Hofstede cultural dimensions (Hofstede, 1980). Extreme values are in Portugal and Netherlands while, Spain is usually between them. For example, for the *Uncertainty Avoidance* index (UAI), Netherlands has a value of 53, Spain of 86 and Portugal of 104. If we consider other dimensions like *Individualism*, Netherlands takes 81, followed by Spain with 51 and finally by Portugal with 27. Intermediate values can be relevant in order to explore nonlinear patterns (i.e. Broekhuizen *et al*, 2011).

We hypothesize that cultures characterized by high levels of UAI (Hofstede, 1980) display preference for known/recognized shapes (figurative ones). As natural representations are the most familiar ones, we expect to link it with cultures with higher levels of UAI. We will use a recent methodological development by Rosemalen *et al* (2010) in order to differentiate response style and content of the items in rating scale responses. This new methodology is especially relevant in our study since we can have non-desired sources of heterogeneity in responses, due to the use of two different samples for each country, or other style bias coming from segmentation variables such as gender or age.

This experiment will also be complemented by two additional experiments, which will allow further examining psychological, behavioural and neurological properties of logo design.

In a second experiment, we will attempt to differentiate consumer affective responses towards logo design. In this experiment we will evaluate the influence of figurativeness on affective processing, on affect towards the logo and also on consumer's affective involvement with the logo.

In a third experiment we will complement psychological and behavioral results from our previous experiments, with an empirical analysis of neurological response towards brand logo

design. fMRI will allow for a direct measurement and localization of brain activations, which will provide confirmatory evidence of the psychological phenomena identified in our previous experiments, and help to generate a more fundamental conceptualization and understanding of the underlying processes (Reinman *et al* 2010).

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