Design, personality traits and consumer responses to brand logos

1.   Purpose

Logo design is a critical element in building consumers' perceptions of a brand because it can evoke strong associations (Aaker, 1991; Schmitt and Simonson, 1997) and should translate into brand equity (Orth and Malkewitz, 2008). According to previous research, aesthetic logo designs can enhance brand commitment (Park et al., 2013) and elicit strong affective responses (Bloch, 1995). Such affective reactions to a logo can influence attitudes toward the brand or company (Foroudi et al., 2014). Therefore, understanding how design elements create positive affective responses has become increasingly important.

Yet, despite the relevance of logos as communication cues, empirical studies of logo design issues in marketing journals are still scarce (Peterson et al., 2015). This study seeks to address this research gap by examining consumers' responses to logo design, and specifically to the different types of natural designs, at a behavioral and psychological level. Additionally, we explore whether socio-demographic variables and consumer personality traits are sources of differences in such reactions.

2. Theoretical background

In this study, we use the term "logo" to refer to the separate visual symbol that a company uses to identify itself or its products (Henderson and Cote, 1998).

According to previous research, naturalness is a critical dimension that influences consumers' cognitive and affective responses not only to the logo but also to the typeface design and packaging (Henderson and Cote, 1998; Henderson et al., 2003; Orth and Malkewitz, 2008) or even to architectural designs (Raffelt et al., 2013). Given claims of their universal aesthetic primacy, many firms have incorporated natural designs in a variety of ways in their brand identity signs. Thus, we conclude that examining the impact of the naturalness of logo design element is a theoretically and managerially relevant endeavor.

Henderson and Cote (1998) identify natural designs by the degree to which they depict commonly experienced objects. The authors show that logos representative of objects that have widely recognized meanings are more effective at evoking correct recognition and positive affect. Abstract logos, in contrast, are the least effective category in terms of both recognition and image contribution. These findings receive support by Veryzer's (1999) theory of aesthetic response, which suggests that individuals have a range of commonly acquired likings for objects embodying natural forms.

In line with previous insights, we expect greater affect for logo designs that represent objects from the natural or real world versus logo designs that represent abstract objects. Following Machado et al. (2015), we also distinguish natural designs as including cultural and organic designs. Organic logo design refers to logos that depict "biological objects" that is, objects from the natural world (e.g., flowers, fruits, animals, faces). Cultural logo design refers to logos that depict manufactured objects (e.g., buildings, everyday objects) or other cultural symbols (e.g., punctuation marks, the Christian cross). Semiotics literature has established that organic objects are immediately recognized for their sensitive properties, whereas cultural objects do not have a direct biological origin and thus should be more difficult to memorize and trigger less positive affective responses (Greimas and Courtés, 1993; Lencastre, 1997). Research on design also suggests that humans have an innate preference for natural forms that embody organic principles (Mayall, 1968; Papanek, 1984) and that designs including images of nature convey more positive brand impressions (Orth and Malkewitz, 2008). Therefore, we expect that within natural designs, affect toward organic logo designs will be greater than affect toward cultural designs.

Prior studies demonstrate that possessions reflect the possessor's identity (Belk et al, 1982; Shavitt, 1990). Schembri et al. (2010) say that individuals have an inherent desire to communicate who they are, and they operationalize such a desire by using signs embedded in everyday life to communicate the self. Indeed, consumers tend to prefer brand identity signs that are congruent with their self-concepts (Underwood, 2003), and reinforce or enhance the self (Levy, 1959). At this respect, Lee et al (2015) show that brand logos can be used by consumers as means to display positive, intangible attributes about themselves. Therefore, we assume that consumers' enduring individual traits will influence consumer responses towards brand logo design.

Individual personality is defined as "a dynamic organization, inside the person, of psychological systems that create the person's characteristic patterns of behaviour,

thoughts, and feelings" (Carver and Scheier, 2004, p. 15). Thus, personality is considered a causal force in determining how individuals relate to the world.

Even though research on personality has only gained relevance in the last decades, the roots can be traced back for almost a century (Allport and Odbert, 1936). Several different studies were designed in an attempt to reduce the number of identifiable traits to a practical level. The most successful study introduced the five factors typology that is widely used today (Tupes and Christal, 1961) and which was later designated as the "Big Five" (Goldberg, 1990). The Big Five includes five fundamental dimensions of human personality, namely: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism.

According to previous research, individual personality traits tie in with socio-demographic characteristics, including age and gender (Costa and McCrae, 1992), and, more importantly, they are linked with consumer's affective responses and behaviors (Costa and McCrae, 1992; Morodian and Olver, 1997; Orth et al., 2010; Watson et al, 1988). For example, consumers who score high in neuroticism display lower levels of emotional attachment in response to a pleasant store environment (Orth et al, 2010). On the other hand, more extraverted consumers are more likely to become attached to brands when experiencing pleasure arising from the brand communication cues (Costa and McCrae, 1992; Orth et al, 2010). The association between openness to experience and curiosity implies that consumers who score high on openness are more likely to respond favorably to pleasant signs (Robins et al, 2000). Furthermore, more agreeable consumers should be more likely to attach themselves to brands (or to brand logos) when experiencing store-evoked (or logo design-evoked) pleasure (Paunonen and Aston, 2001; Orth et al, 2010). In addition, conscious individuals are more prone to develop attachments to brands associated with pleasing and arousal experiences (Orth et al, 2010; Robins et al, 2000). Hence, we assume that individual personality traits will lead to differences in consumers' affective and behavioral response towards logo designs, and that consumers higher in extraversion, openness, agreeableness and consciousness will tend to have a higher affect for organic logo designs and to choose these logos more often.
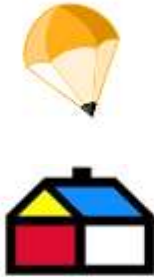
3. Methodology

3.1 Stimulus selection

We used unknown logos in this research, so that we could access the effects of logo design on consumer responses and eliminate the influences of brand awareness and attitude (Keller, 1993). Moreover, the use of unfamiliar logos should magnify the effects because

the influence of design cues on consumers' evaluations tends to be stronger when they are not familiar with the brand (Dhar and Novemsky, 2008; Giese et al., 2014). Respondents viewed all logos in their original colors, as color is an essential component of brand logos (Hynes, 2009; Madden et al., 2000).

Logos considered for this experiment were classified in a previous experiment according to recognition, affect and design (organic, cultural or abstract logo design), by at least 210 respondents. We considered for this experiment logos that were correctly classified by at least 70% of the respondents, in terms of logo recognition and logo design. We randomly chose 10 for each category logos among the ones that respected all the established criteria. Table 1 contains examples of logos representative of each category.

Table 1 – Examples of the logos included in each category

Abstract	Cultural	Organic

3.1 Sample and procedure

In this experiment we used a within-subjects design. Each subject evaluated 30 (i.e., 10 abstract, 10 cultural and 10 organic logo designs). Within each questionnaire, the sequence of sets of logos was randomized.

We used a quota sample representative in terms of gender, age and region of the Portuguese and Spanish online population. This sampling method seems to be the most appropriate, as we are targeting internet users with our survey. Indeed, data collection was carried out using an online survey.

In total, 897 respondents participated in the two countries included in this study (Portugal - n = 559 and Spain - n = 338).

3.2 Measures

First we evaluated logo choice and affective processing through reaction time (Stenberg, 2004; Reinmann et al, 2010). Participants were asked to imagine they were choosing a logo for a new brand. Each trial started with a brief preparation phase, followed by the logo presentation. Once seeing the stimuli, respondents were given maximum eight seconds to decide if they choose the logo for a new brand, using a four-point scale, ranging from 1 - "certainly choose" to 4 - "certainly not choose".

Then we evaluated affect towards through a seven-point semantic differential scale adapted from the literature, which allowed us to access the feelings that the logo inspires. We included in our affect scale the items that are most often used to measure affect or attitude in marketing research, and the ones specifically used to measure affect towards logos or other brand identity signs (e.g. Aggarwal, 2004; Chaudury and Holbrook, 2001; Grossman and Till, 1998; Henderson and Cote, 1998, Jun et al, 2008; Milberg et al, 1997; Walsh et al, 2010 and 2011).

Following, we measured respondents' personality using the Big Five typology (Goldberg, 1990). This scale has been previously applied in Portugal and in Spain and has proved to have acceptable levels of psychometric properties in terms of validity and reliability (Bertoquini and Pais-Ribeiro, 2006). Finally, we included a set of questions related with the respondents' socio-demographic characteristics.

4. Findings and Contributions

We used multivariate analysis of variance to evaluate the influence of naturalness of logo design on affect and choice. We measured effect sizes using Cohen's d and partial eta squared (η^2_p). Furthermore, we employed Pearson correlations to measure the correlations between the different dimensions and used a significance level of .05. Additionally, we used regression analysis to test the effect of the different variables in the choice of the brand logos. We are currently concluding the data analysis and will present a detailed discussion of our findings at the conference.

According to our preliminary findings, naturalness significantly improves affective response to the logo and logo choice. A greater preference for natural logo designs is consistent with previous research (Henderson and Cote, 1998; Machado et al., 2015; Orth and Malkewitz, 2008), and confirms the importance of designs depicting commonly experienced objects. Results show that within natural logo designs, organic designs are clearly preferred. Moreover, findings show that logo affect and choice are positively correlated for all the logo design categories. In respect, to the influence of individual personality traits on consumer response to the different categories of natural logo designs,

findings suggest that consumers who score high in extraversion, and thus have a higher ability to experience positive emotions (Butt and Phillips, 2008), tend to show a higher preference for organic logo designs, i.e. designs that provide a higher visual pleasure. Moreover, more agreeable consumers also denote a higher preference for organic logo designs. These findings are in line with the literature, as more extraverted and agreeable consumers are more likely to become attached to pleasing brand identity signs (Orth et al, 2010). On the other hand, more conscious consumers show a lower preference for abstract logo designs, and hence for logo design which are less pleasing, and also very low in familiarity and meaning. This result can be linked with previous research highlighting that consciousness consumers tend to value order and dependability (Paunonen and Ashton, 2001), and thus to prefer brands or brand identity signs with which they are familiarized (Liao and Wang, 2009; van Grinsven and Das, 2015).

The findings of this study should contribute to the logo strategy literature and provide guidelines for companies when selecting or modifying their logo to appeal to consumers with different socio-demographic and personality traits. Results should enrich past findings that differences in consumers' affective and behavioural responses are linked with differential levels of the Big Five (Moorodian and Olver, 1997). Links established between personality traits and observable differences, such as age, gender or country of origin (Costa and McCrae, 1992), should allow brand managers to better design their logos in accord to the characteristics of their target consumers.

5. References

Aaker, D.A. (1991). *Managing Brand Equity: Capitalizing on the Value of a Brand Name*, The Free Press, New York, NY.

Aggarwal, P. (2004), The effects of brand relationship norms on consumer attitudes and behavior. *Journal of Consumer Research*, 31(1), 87- 101.

Allport, G.W. and Odbert, H. S. (1936). Trait-names: A psycho-lexical study. *Psychological Monographs,* 47(1), i-171. http://dx.doi.org/10.1037/h0093360

Belk, R.W., Bahn, K.D. and Mayer, R.N. (1982). Development of recognition and consumption symbolism. *Journal of Consumer Research*, 9(1), 4-17.

Bertoquini, V., and Pais-Ribeiro, J. L. (2006). Estudo de Formas Reduzidas do NEO-PI-R. *Psicologia: Teoria, Investigação e Prática*, 11(1), 85-101.

Bloch, P.H. (1995). Seeking the ideal form: product design and consumer response. *Journal of Marketing,* 59 (July), 16-29.

van Grinsven, B. and Das, E. (2015). Processing different degrees of logo change: When higher levels of brand consciousness decrease openness to substantial logo changes. *European Journal of Marketing*, 49(11/12), 1710-1727.

Butt, S. and Phillips, J.G. (2008). Personality and self-reported mobile phone use. Computers in Human Behavior. 24(2), 346-360.

Carver, C.S., and Scheier, M.F. (2004). *Perspectives on Personality* (5th ed.). Boston: Allyn & Bacon.

Costa, P.T. Jr. and McCrae, R.R. (1980). Influence of extraversion and neuroticism on subjective well-being: Happy and unhappy people. *Journal of Personality and Social Psychology*, 38,668-678.

Costa, P.T. Jr. and McCrae, R.R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.

Dhar, R. and Novemsky, N. (2008). Beyond rationality: The content of preferences. *Journal of Consumer Psychology*, 18(3), 175-178. DOI: http://dx.doi.org/10.1016/j.jcps.2008.04.004

Giese, J.L., Malkewitz, K., Orth, U.R. and Henderson, P.W. (2014). Advancing the aesthetic middle principle: Trade-offs in design attractiveness and strength. *Journal of Business Research*, 67(6), 1154-1161. DOI: http://dx.doi.org/10.1016/j.jbusres.2013.05.018

Goldberg, L. R. (1990). An alternative "description of personality": The Big-Five factor structure. *Journal of Personality and Social Psychology,* 59(6), 1216-1229.

Foroudi, P., Melewar, T.C. and Grupta, S. (2014). Linking corporate logo, corporate image, and reputation: An examination of consumer perceptions in the financial setting. *Journal of Business Research*, 67(11), 2269-2281. DOI: http://dx.doi.org/10.1016/j.jbusres.2014.06.015

Greimas A.J. and Courtés, J. (1993), *Sémiotique: Dictionnaire Raisonné de la Théorie de Langage*, Hachette Supérieur Paris.

Grossman, R.P. and Till, B.D. (1998). The Persistence of classically conditioned brand attitudes. *Journal of Advertising*, 27(1), 23-31.

Henderson, P.W. and Cote, J.A. (1998). Guidelines for selecting and modifying logos. *Journal of Marketing,* 62(2), 14-30. DOI:10.2307/1252158

Henderson, P.W., Cote, J.A., Leong, S.M. and Schmitt, B. (2003), "Building strong brands in Asia: Selecting the visual components of image to maximize brand strength",

International Journal of Research in Marketing, Vol. 20 No. 4, pp. 297-313. DOI: 10.1016/j.ijresmar.2003.03.001

Lee, J., Ko, E. and Megehee, C.M. (2015). Social benefits of brand logos in presentation of cross and same gender influence contexts. *Journal of Business Research*, 68, 1341-1349.

Lencastre, P. (1997). *L'Identification de la Marque, un Outil de Stratégie de Marketing: Le Nom de la Marque, le Logotype et la Mémorisation*, Doctoral Dissertation, Université Catholique de Louvain, Louvain-la-Neuve.

Levy, S.J. (1959). Symbols for sale. *Harvard Business Review*, 37, 117-124.

Liao, J. and Wang, L. (2009). Face as a mediator of the relationship between material value and brand consciousness. *Psychology & Marketing*, 26(11), 987-1001.

Kim, J., Allen, C.T and Kardes, F.R. (1996). An investigation of the mediational mechanisms underlying attitudinal conditioning. *Journal of Marketing Research*, 33(3), 318-328.

Machado, J., Vacas-de-Carvalho, L., Torres, A. and Costa, P. (2015). Brand logo design: Examining consumer response to naturalness. *Journal of Product & Brand Management*, 24(1), 78-87. DOI: http://dx.doi.org/10.1108/JPBM-05-2014-0609

Madden, T.J., Hewett, K. and Roth, M.S. (2000). Managing images in different cultures: A cross-national study of color meanings and preferences. *Journal of International Marketing*, 8(4), 90-107. DOI: http://dx.doi.org/10.1509/jimk.8.4.90.19795

Mayall, W.H. (1968), *Machines and Perception in Industrial Desig*n. Studio Vista, London, UK:

Milberg, S.J., Park, C.W. and McCarthy, M.S. (1997). Managing negative feedback effects associated with brand extensions: The impact of alternative branding strategies. *Journal of Consumer Psychology,* 6(2), 119-140.

Mooradian TA, Olver JM. (1997). I can't get no satisfaction: The impact of personality and emotion on postpurchase processes. *Psychology & Marketing*, 14(4), 379–93.

Orth, U.R. and Malkewitz, K. (2008). Holistic package design and consumer brand impressions. *Journal of Marketing*, 72(3), 135-144. DOI: http://dx.doi.org/10.1509/jmkg.72.3.64

Orth, U.R., Limon, Y. and Rose, G. (2010). Store-evoked personalities and consumer emotional attachments to brands. *Journal of Business Research*, 63, 1202-1208.

Papanek, V. (1984). *Design for the Real World*, Van Nostrand, New York, NY.

Park, C.W., Eisingerich, A.B., Pol, G. and Park, J.W. (2013). The role of brand logos in firm performance. *Journal of Business Research*, 66(2), 180-187. DOI: http://dx.doi.org/10.1016/j.jbusres.2012.07

Paunonen SV, Ashton MC. (2001). Big Five factors and facets and the prediction of behavior. *Journal of Personality and Social Psychology*, 81(3), 524–39.

Peterson, M. AlShebil, S. and Bishop,M. (2015). Cognitive and emotional processing of brand logo changes. *Journal of Product & Brand Management,* 24(7), 745-757, https://doi.org/10.1108/JPBM-03-2015-0823

Reimann, M., Zaichkowsky, J., Neuhaus, C., Bender, T. and Weber, B. (2010). Aesthetic package design: A behavioural, neural and psychological investigation. *Journal of Consumer Psychology*, 20, 431-441. DOI: 10.1016/j.jcps.2010.06.009

Sääksssjärvi, M., van den Henden, E., Mugge, R. and van Peursem, N. (2015). How exposure to logos and logo varieties fosters brand prominence and freshness. *Journal of Product & Brand Management*, 24(7), 736-744, DOI: https://doi.org/10.1108/JPBM-06-2014-0648

Schechter, A.H. (1993). Measuring the value of corporate and brand logos. *Design Management Journal*, 4(1), 33-39. DOI: 10.1111/j.1948-7169.1993.tb00124.x

Schembri, S. Merrilees, B. and Kristiansen, S. (2010). Brand consumption and narrative of the self. *Psychology & Marketing*, 27(6), 623–638. DOI: 10.1002/mar.20348

Schmitt, B.H. and Simonson, A. (1997), *Marketing Aesthetics*, The Free Press.
New York, NY.

Shavitt, S. (1990). The role of attitude objects in attitudinal functions. *Journal of Experimental Consumer Psychology,* 26, 24-48.
 Spaeth, T. (1999), "Powerbrands", *Across the Board*, Vol. 36 No. 2, pp. 23-29.

Sternberg, S. (2004). Memory-scanning: Mental processes revealed by reaction time experiments. In Balota, D.A. and Marsh, E.J. (Eds.), *Cognitive Psychology: Key Readings* (pp. 48). New York, NY: Psychology Press.

Tupes, E.C. and Christal, R.C. (1961). *Recurrent personality factors based on trait ratings*. Technical Report, USAF, Lackland Air Force Base, TX.

Underwood, R. L. (2003). The communicative power of product packaging: Creating brand identity via lived and mediated experience, *Journal of Marketing Theory and Practice*, 11(1), 62-76, DOI: 10.1080/10696679.2003.11501933

Veryzer, R.W. (1999). A nonconscious processing explanation of consumer response to product design. *Journal of Psychology & Marketing*, 6(6), 497-522. DOI: 10.1002/(SICI)1520-6793(199909)16:6<497: AID-MAR4>3.0.CO;2-Z

Watson, D., Clark, L.A. and Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scale. *Journal of Personality and Social Psychology*, 54, 1063-1070.

Walsh, M.F., Winterich, K.P. and Mittal, V. (2010). Do logo redesigns help or hurt your brand? The role of brand commitment. *Journal of Product & Brand Management*, 19 (2), 76-84.

Walsh, M.F., Winterich, K.P. and Mittal, V. (2011). How re-designing angular logos to be more rounded shapes brand attitude: Consumer brand commitment and self-construal. *Journal of Product & Brand Management*, 28(6), 438-447.

Wheeler, A. (2003). *Designing Brand identity: A complete Guide to Creating, Building, and Maintaining Strong Brands*, John Wiley & Sons, Hoboken, NJ.