I Love You just the Way You Are: When Large Degrees of Logo Change Hurt Information Processing and Brand Evaluation

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1 Introduction

To keep up with rapidly changing market conditions, revitalizing a brand through an adjustment of brand logos is a natural and necessary element of brand management (Muzellec & Lambkin, 2006; Aaker, 1991; Kapferer, 1998). On average, one in fifty companies change their logo per year (Spaeth, 2002). For example, Philips redesigned its brand logo in 2013 to communicate a new strategy of 'being a diversified technology company, focused on improving people's lives through meaningful innovation' (Philips, 2013). This logo change went unnoticed by many, most likely due to its subtle features. BP redesigned its brand logo more drastically in 2001. The company wanted to let go of the traditional image of a global petrol company by focusing more on sustainable energy.

The design world generally describes small versus big logo changes as evolutionary versus revolutionary redesigns. Evolutionary redesigns are preferred when brands hold a strong market position and want to reach new audiences (Airey, 2009; Murphy, 2013; Van Grinsven & Das, in press). Revolutionary redesigns are applied to reflect changes in brand identity and to diminish negative brand associations (Airey, 2009; Van Grinsven & Das, in press). Un-fortunately, both theoretically and empirically it has remained unclear how big a redesign should be in order to increase consumer attention or change brand evaluations. Thus far, three studies have explicitly examined different degrees of logo change, but these studies used different operationalizations. Walsh, Winterich and Mittal (2010) defined a small change as a slight adjustment of the logo shape and a substantial change was a larger shape change, changing the complete form of a logo from angular to round. Müller, Kocher, and Crettaz (2011) and Van Grinsven and Das (in press) operationalized a small logo change as a change in color of the logo and a substantial change as a change in color and shape of the logo, but staying true to the overall pattern.

The present research tested the effects of different degrees of logo change on logo processing speed and brand attitudes. Because several studies have shown that human preference for certain shapes may be universal (Bar & Neta, 2006), we followed guidelines by Müller et al. (2011) for substantial degrees of logo

change (i.e., a change of the original brand logo in color and shape). We extended previous research by also including large degrees of logo change, following guidelines of Brandglue (2013): features from the original brand logo should still be visible by maintaining some heritage of the original brand logo and/or the main product category of the brand

2   Theoretical Framework

Small and larger logo changes may be processed at different levels of attention (Finn, 1988). Processing of small logo changes, which may often go unnoticed by many, may be based on an automatic mechanism that does not require awareness or motivation (Alley & Cunningham, 1991; Bornstein, 1989). A large body of literature from cognitive psychology has found that prototypical stimuli are processed more fluently that non-prototypical stimuli (Reber, Schwarz, & Winkielman, 2004; Posner & Keele, 1968; Rumelhart, McCelland, & the PDP Research Group, 1986) because they do not demand much processing capacity. Interesting in this respect are findings from Shapiro and Nielsen (2013) who showed that spontaneous detection of subtly changed ad-elements increased fluent processing of the ad, despite the fact that observers failed to actively notice that they were exposed to a changed object (i.e., change blindness; Simons & Rensink, 2005). The authors conclude that implicit awareness of a change increases the allocation of processing resources to the changed information (Brockmole & Henderson, 2005; Shapiro & Nielsen, 2013), which, at the time of judgment, positively affects processing fluency. These findings point to the possibility that subtle, evolutionary logo changes may even increase fluent processing, compared with original logo processing, even though several studies suggest that fluency occurring at the automatic level is enhanced by familiarity (Shapiro, 1999; Jacoby & Hayman, 1987; Roediger & Blaxton, 1987).

For higher degrees of logo change, consumers need to more actively engage with the stimulus in order to understand its meaning and link it to existing knowledge. Just as complex logos require more cognitive capacity than simple logos (Van Grinsven & Das, 2014), evolutionary brand logo changes are easier to link to existing knowledge systems than revolutionary changes. Higher degrees of logo change may thus require more intensive, systematic processing than small logo changes. This proposition is supported by recent research, reporting that substantial logo changes slowed down logo processing speed (in milliseconds), compared with small and no logo change conditions (Van Grinsven & Das, in press). Extending these findings to large logo changes, we propose that the relationship between degree of logo change and processing speed is linear and negative (H1). We further propose that exposure should moderate this relationship. As each additional exposure to a changed logo is an

opportunity for consumers to learn about the stimulus, and learning about the stimulus becomes more pertinent for higher degrees of logo change, we expect that exposure should speed up processing speed especially for higher degrees of logo change (H2).

Consumers' motivation to pay attention to marketing stimuli also plays a role in logo processing effects. Van Grinsven and Das (in press) found that substantial degrees of logo change hurt logo processing speed in particular for highly brand conscious consumers. The concept of brand consciousness helps to understand how consumers process information of brands they are interested in (Nelson & McLeod, 2005; Van Grinsven & Das, in press). It is defined as the degree to which a consumer is oriented on buying well-known branded products (Sprotles & Kendall, 1986; Shim & Gehrt, 1996; Liao & Wang, 2009). Highly brand conscious consumers often use brands as a form of self-expression (Belk, 1988). Just as optimally innovative stimuli, significant logo changes may require deeper levels of attention and higher levels of cognitive processing, and only highly brand conscious consumers may be motivated to invest this effort, and 'solve the logo riddle'. Low brand conscious consumers on the other hand, lack strong connections between themselves and the brand, and thus process brand logo redesigns more automatically. We thus expect that increases in degree of logo change negatively affect logo processing speed in particular for highly brand conscious consumers (H3).

2.1   Logo Changes and Brand Attitudes

Larger degrees of logo change have fewer familiar elements and more novel elements than small changes. The downside of such larger logo changes is the increased difficulty of connecting a logo to existing knowledge systems. However, the upsides of larger logo changes lie in the domain of attention and evaluation; novel stimuli are more attention grabbing than familiar stimuli and more intuitively interesting (Berlyne, 1970). Research on optimally innovative images (Giora et al., 2004) suggests that a pleasurable feeling may arise when people are challenged to process information that is off from what they know. This research shows that optimally innovative stimuli are preferred over familiar stimuli, despite the fact that familiar stimuli are processed more fluently at the implicit level. Optimally innovative stimuli appear to elicit deeper levels of attention and higher levels of cognitive processing (Hekkert, Snelders & Van Wieringen, 2003). Also relevant in this respect is research on stimuli that intend to 'communicate the message in an aesthetically pleasing way by deviating from the audience's expectations' (McQuarrie & Mick, 2003, p. 198) such as tropes, riddles and rhetorical figures in advertising (e.g., Corbett & Connors, 1999). Consumer's affective responses to such deviations from the expected depend on

whether they are able to actively process and solve this riddle. If this is the case, then the pleasurable experience associated with solving the puzzle may transfer to attitudes toward the ad (e.g., Ang & Lim 2006, Lee & Mason, 1999; Phillips, 2000; van Mulken et al., 2005; 2010). When the riddle or trope is too easy or too difficult, consumers do not experience the pleasurable feeling (Van Enschot et al., 2008), with potentially backfiring effects on attitudes.

Like tropes and metaphors, substantial logo changes may present con-sumers with a puzzle; a stimulus that feels familiar but looks different. To provide a moderate cognitive challenge, logo changes should be recognizable but not too easy to solve, containing a fair mix of old and new elements. Hence, whether higher degrees of brand logo change affect brand attitude positively or negatively, depends on whether consumers are still able to process the degrees of change.

For example, Starbucks redesigned its brand logo in 2011, by deleting both the brand name and the color black from the brand logo. Although consumers had many different feelings and opinions about this brand logo redesign, consumers were still able to link the redesigned logo to the Starbucks-brand. Tropicana on the other hand, redesigned visual elements of the brand (logo and packaging) in 2009. After two months sales dropped with 20%, and Tropicana switched back to their original brand logo and packaging (Zmuda, 2009).

Extending previous findings (Van Grinsven & Das, in press), we propose a non-linear relationship between degree of logo change and brand attitudes: up to substantial degrees of change, increases in processing difficulty should go hand in hand with increased brand evaluations; for larger degrees of change, pro-cessing difficulty should be negatively related to brand attitude. We thus propose a curvilinear relationship between degree of logo change and brand attitude (H4). Because highly brand conscious consumers are more likely to process logo information at deeper levels, and because exposure increases consumers' opportunity to learn about new stimuli and gradually integrate them into their associative network as familiar stimuli, we expect these effects to be more pronounced for highly brand conscious consumers and after repeated exposures (H5).

3   Method

3.1   Participants and Design

The hypotheses were tested in a 3 (degree of change: no change, small change, large change) x 2 (exposure: 1 time vs. 3 times) between subjects design with brand consciousness as continuous predictor (standardized). Two hundred

and sixty-six Dutch respondents (56.9% female, 43.1% male, Mage = 25.03, SDage = 7.82) participated in this study.

3.2   Materials

The target logos (both FMCG brands: Ola and Red Bull) consisted of a combination of a word mark and a brand logo, and were familiar among all partici-pants. The target logos were redesigned by a graphic designer, who was paid a small fee for his services, and concerned either a substantial change or a large change with respect to the original brand logo. For the manipulations of degree of logo change guidelines by Müller, et al. (2011) were followed for the sub-stantial redesigns (i.e., change of the original brand logo in colour and shape; see also Van Grinsven & Das, in press), and guidelines of Brandglue (2013) were followed for the large redesigns (i.e., revolutionary redesigns): features from the original brand logo can still be visible by maintaining some heritage of the original brand logo and/or the main product category of the brand. Because previous studies (e.g., Van Grinsven & Das, in press) have shown that small degrees of logo change (i.e., a change of color within the same shades of color, for example: changing from a red hue to orange: Müller et al., 2011) hardly sorted any effects on logo processing speed, we extended the degrees of change to large degrees of logo change, and we excluded the small degrees of logo change. The logo redesigns are presented in Figure 1.

The brands were selected based on several criteria: 1) brands should be familiar among Dutch participants, 2) the brand logos should consist of a com-bination of a word mark and a brand logo, 3) the large brand logo redesigns should be transformed into figurative brand logos in order to remain some of the heritage of the product category of the brand, and finally, 4) the brand logos shouldn't be changed in the last decade.

Figure 1: Degrees of Logo Change for the Target Brands

To verify the operationalization of degree of change we conducted a pretest among 50 participants (50% female) in a between subjects design; each participant was first exposed to the original brand logo, followed by a set of brand logos that had undergone either a substantial or a large change. Participants were asked to what extent they perceived the brand logo as different from the original brand logo by responding to three items (no difference - large differ-ence, no adjustments - large adjustments, no change - large change) on a 7-point scale (Cronbach's α : .94; cf. Alshebil, 2007; Walsh, et al., 2010). Results showed that both substantial adjustments (M = 4.30, SD = 1.08) and large ad-justments (M = 5.96, SD = .74) were evaluated as such and differed significantly from each other: t(49) = -10.45, p < .001.

3.3   Procedure

The online tool 'Inquisit' was used to collect the data on laptops with pre-installed plugins. Participants were actively approached to contribute to this study and were, when agreeing to participate, assigned to one of the laptops. The program randomly assigned participants to one of the experimental conditions. At the start of the questionnaire, participants were informed that they were about to contribute to a study about brands and brand logos. After asking several questions about demographics, participants were instructed that they needed to

watch a slide show of different logos that would be presented to them, about which questions would be asked later (i.e., logo processing speed).

This slide show consisted of different brand logos, among which the two target brands. Each logo was presented for 1200 milliseconds, immediately followed by the next brand logo (conform Lepore & Brown, 2002). Participants in the 1-exposure condition were exposed to a slide show of 24 unique brand logos, among which were the two target logos. The other 22 unique brand logos served as filler items and were all original brand logos. Participants in the 3-exposure condition were exposed to a slide show of 48 brand logos: $3*2 = 6$ target logos, four other brand logos that were also shown three times to not solely focus on our target logos ($4*3 = 12$ filler logos), the same 18 filler logos that were shown in the 1-exposure condition, and twelve other unique filler brand logos. All logos were of (inter)nationally familiar brands and all filler logos were original brand logos. Depending on the condition the participants were in, they were either presented with the original brand logos, the substantially redesigned brand logos, or the large redesigned brand logos and the filler items. Logos were presented in the center of the screen and the order in which the logos appeared differed randomly within and across conditions.

After the slide show, brand consciousness was measured, which also served as a distraction from the logo processing speed task. Next, logo processing speed (see below for a more detailed description) was measured, followed by questions to measure brand attitude per brand and a one-item control question for brand familiarity: 'Are you familiar with this brand?' All participants answered affirmative. At the end, participants were thanked for their co-operation.

3.4   Measures

Brand Consciousness. A six-item, 7-point Likert scale of Nelson and McLeod (2005) was used to measure brand consciousness (e.g., 'Brand name products that cost a lot of money are good quality', and 'Sometimes I am willing to pay more money for products because of its brand name', totally agree - totally disagree), Cronbach's $\alpha = .89$ (M = 4.47, SD = 1.45).

Logo Processing Speed. We measured logo processing speed with an adjusted version of a Lexical Decision Task (LDT, Meyer & Schvaneveldt, 1971). The method to measure logo processing speed was adopted from Van Grinsven and Das (in press). By pressing either the 'I' (seen before) or the 'E' (not seen before) on their keyboard (Lepore & Brown, 2002), participants were asked to decide as quickly and accurately as possible whether the brand logo presented in the middle of their computer screen had been presented to them in the initial slide show or not.

The computer recorded reaction times (RTs) to stimuli in milliseconds, and the average time it took participants to respond to the two target logos was used as the mean index for logo processing speed (M = 500.81, SD = 243.29). Incorrect responses were excluded for analysis (Van Koningsbruggen, Das, & Roskos-Ewoldsen, 2009). The amount of incorrect answers was evenly distributed among target logos and conditions (Merror = 37.7). After excluding incorrect answers, an outlier analysis was conducted (Miller, 1991) which led to the total exclusion of 11.3% of all answers.

Brand attitude. We used a four-item, 7-point semantic differential scale of Ahluwalia, Burnkant, and Unnava (2000) to measure brand attitude, with the following items: 'I believe this brand is: bad - good, terrible - nice, unfavorable - favorable, undesirable - desirable' Cronbach's α = .77 (M = 3.62, SD = 1.41).

4   Results

4.1   *Logo Processing Speed*

A General Linear Model with degree of change (original logo vs substantial redesign vs large redesign) and exposure (1 vs 3 times) as between subjects factor and brand consciousness as continuous factor (following Aiken & West, 1991) showed a significant main effect of exposure on logo processing speed: $F_{(1, 236)} = 4.587$, $p = .033$, $\eta2p = .019$. Brand logos that were shown three times were processed faster (M = 482.89, SD = 197.36) than brand logos that were shown once (M = 550.26, SD = 261.64). Furthermore, we found a significant main effect for degree of change: $F_{(2, 236)} = 3.478$, $p = .032$, $\eta2p = .029$. Additional post-hoc analyses with Bonferroni correction showed that substantial redesigns (M = 484.13, SD = 181.91) were processed significantly faster than large redesigns (M = 574.65, SD = 225.37, $p = .040$). Logo processing speed of the original brand logos (M = 500.92, SD = 243.28) did not differ from either the substantial or the large redesigns ($p > .05$).

Finally, we found a marginally significant interaction effect between degree of change and brand consciousness, $F_{(2, 236)} = 2.335$, $p = 0.099$, $\eta2p = .019$. To investigate the nature of this interaction effect, we examined highly brand conscious consumers (1 SD above the mean standardized brand consciousness score; see Aiken & West, 1991), and low brand conscious consumers (1 SD below the mean standardized brand consciousness score) separately. As illustrated by Figure 2, logo processing speed decreased for highly brand conscious consumers who were exposed to a large brand logo redesign (M = 614,58, Se = 50.01) as compared to the original brand logo (M = 419.45, Se = 54.22, $p = .011$), and compared to the substantial brand logo redesign (M =

504.81, Se = 51.83, p = .099). The difference between the substantial and the large logo redesign was non-significant. No effects were found for consumers who scored low on brand consciousness, (F < 1).
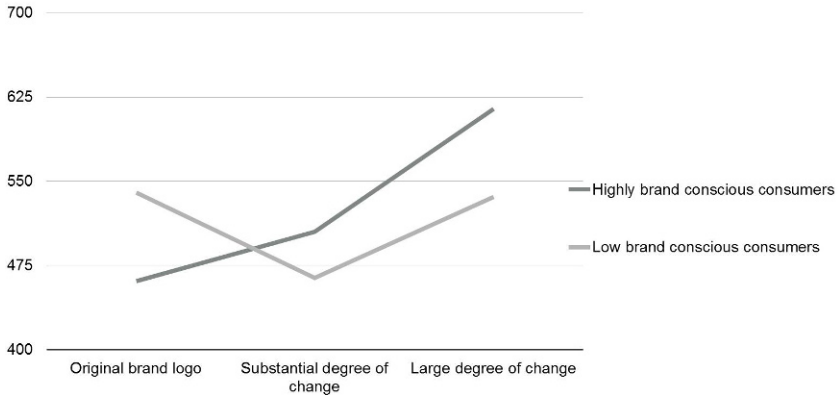

Figure 2: Logo Processing Speed for different Degrees of Logo Change and Brand Consciousness

4.2   Brand Attitude

A General Linear Model with degree of change (original logo vs substantial redesign vs large redesign) and exposure (1 vs 3 times) as between subjects factor and brand consciousness as continuous factor showed a significant effect for brand consciousness: $F_{(1,254)} = 29.153$, $p < .001$, $\eta2p = .10$. Low brand conscious consumers had a more negative brand attitude (M = 3.49, Se = .26) than highly brand conscious consumers (M = 4.32, Se = .26). Furthermore, we found a marginally significant effect of degree of change and brand consciousness on brand attitude: $F_{(2,254)} = 2.444$, $p = .089$, $\eta2p = .019$ and a significant three-way interaction effect of degree of change, exposure and brand consciousness, $F_{(2,254)} = 3.740$, $p = 025$, $\eta2p = .029$. To investigate the nature of this interaction effect, we used the same analysis-technique as for the effects on logo processing speed (see Aiken & West, 1991).
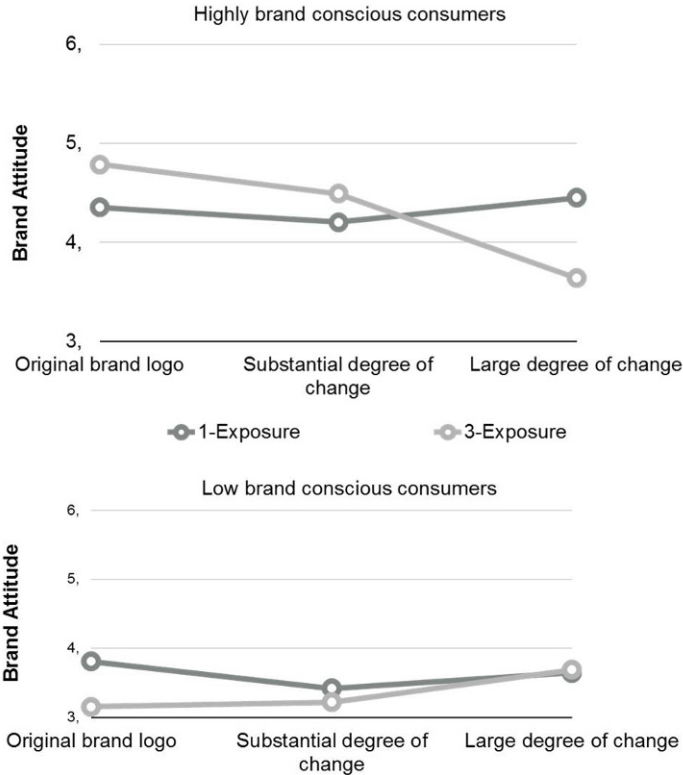
Figure 3: Brand Attitude for Highly and Low Brand Conscious Consumers

As illustrated by Figure 3, brand attitude became more negative for highly brand conscious consumers who were exposed to large brand logo redesigns (M = 3.64, Se = .26) as compared to original brand logos (M = 4.79, Se = .28, p = .003), and substantially changed brand logos (M = 4.49, Se = .23, p = .013), but only in the 3-exposure condition (F (2,254) = 5.254, p = .006). The difference between the original brand logo and the substantial degree of change (p = .41) was not significant. No effects were found for highly brand conscious consumers who were exposed to the brand logo only once (F (2,254) = .221, p = .80). No effects were found for consumers who scored low on brand consciousness, (F < 1) (see Figure 3).

5   Discussion

5.1   Findings and Theoretical Implications

In this study, we examined the effects of different degrees of brand logo change, exposure and brand consciousness. The results showed that higher degrees of logo change reduce logo processing speed. These findings replicate and extend findings of Van Grinsven and Das (in press) by adding another degree of logo change: large logo redesigns. Our findings underscore that revolutionary or large brand logo changes indeed are more difficult to link to existing knowledge systems than evolutionary brand logo changes. Higher degrees of logo change may require more intensive, systematic processing than small logo changes. Furthermore, we found that brand consciousness affects how consumers process logo changes and how this translates into brand attitude. Findings showed that brand logo changes decreased logo processing speed particularly among high brand conscious consumers, suggesting that highly brand conscious consumers process brand information on deeper levels, because they are motivated to invest this effort (Nelson & McLeod, 2005; Finn, 1988).

Brand attitudes became more negative only for highly brand conscious consumers after an increase in exposure and only for large degrees of logo change. These findings replicate and extend previous studies, suggesting that substantial logo changes may be implemented without harming brand attitudes. Large degrees of logo changes may be too difficult to 'solve' (cf. Van Enschot et al., 2008), because they contain too many new elements, which makes these stimuli difficult and unpleasant to process. These findings are in line with studies on optimally innovative stimuli: processing such stimuli elicits deeper levels of attention and higher levels of cognitive processing (Hekkert et al., 2003), which is too difficult for stimuli that contain too many new elements.

5.2   Managerial Implications

Companies cannot endlessly redesign their brand logo without losing their market positions: changes that are too big may negatively affect logo processing speed and brand attitudes. Although previous studies have shown that the negative effect of substantial degrees of logo change can be restored with increased exposures (Van Grinsven & Das, in press), additional exposures may not work for large logo changes. Large degrees of logo change harm a brand's visibility, which can have many different side-effects, as shown in the Tropicana example.

Negative effects of large logo changes on brand attitude are particularly likely for highly brand conscious consumers, which is problematic because

especially highly brand conscious consumers function as brand-ambassadors through different channels. For example, by liking a brand's Facebook page, or its Twitter-channel, highly brand conscious consumers can promote a brand in their own network. Ola for example, has over 7 million likes of their Facebook page, which means they have over 7 million free brand-ambassadors. When changing brand information harms logo processing speed and brand attitudes, companies could have over 7 million dissatisfied brand-ambassadors.

5.3   *Limitations and Directions for Future Research*

Participants were exposed to a brand logo (redesign) either once or three times. In a more naturalistic setting, three exposures to a brand logo is very limited and does not match the amount of exposure consumers are exposed to in real life. For example, on an average day, consumers are exposed to approximately 3600 advertisements (Landau, 2004; Van Grinsven & Das, in press). Future studies should consider examining logo change effects for increased levels of exposure.

Logo processing (in milliseconds) was slowed down especially for highly brand conscious consumers. An alternative explanation could be that highly brand conscious consumers have a 'tunnel vision' for brands that fit their image, which may hinder processing of brand information that is different from what they know (Van Grinsven & Das, in press). Future studies should consider this option by examining whether highly brand conscious consumers only focus on brands they use as a vehicle of self-expression and thus have a tunnel vision, or if highly brand conscious consumer actually process these brand logo changes on deeper levels of attention and therefore need more time to process the redesigned brand logo.

Finally, we only assessed the effects for low involvement brands. High involvement brands are also interesting to examine: consumers are dedicated to these types of brands, because it takes more time to make decisions concerning these type of products, which leads to deeper processing and more established brand knowledge in the consumer brain. This could indicate that high involvement brands are more sustainable in consumers' knowledge systems (Cacioppo & Petty, 1986) and therefore less affected by different degrees of brand logo changes. Future studies should therefore examine the effects of different degrees of logo change for high-involvement brands.

5.4   Concluding Comment

This study suggests that although periodically redesigning a brand logo is a pre-requisite to guarding one's position in consumers' consideration set, when changes are too big, especially highly brand conscious consumers need more time to process the changes (at deeper levels of attention), and their attitude toward the brand becomes more negative.

6   References

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