Free the brand: How a logo frame influences the potentiality of brand extensions

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Abstract

Inspired by the logo redesign case of Starbucks, this research used four experiments to explore how marketers may broaden brand breadth and improve brand extension attitudes by removing the frame from a logo. A logo frame is speculated to create a mental boundary that dictates the scope to which products belong. Removing the logo frame thus frees the brand from such finite boundaries and encourages consumers' relational associations. Study 1 investigated the mechanism underlying the impact of the logo frame on relational and item-specific elaborations. An open logo encouraged participants' usage of relational elaborations, whereas a framed logo reinforced participants' usage of item-specific elaborations. Study 2 demonstrated that participants associated broader product portfolios with a brand that had an open logo than a framed logo. Furthermore, Study 3 employed a brand extension scenario to support that removing the logo frame enhanced consumers' attitudes toward a new extension. Study 4 illustrated that the perceived distance mediated the logo frame effect on extension attitudes as suggested by the Category Adjustment model. These findings demonstrate that marketers could leverage brand perception and favor certain brand extensions through an easily manipulated design feature, the logo frame.

Keywords

Introduction

Framing plays a critical role in aesthetic creation. This design feature is widely applied to art-related practices, including logo design. In Peugeot's logo design history, to take one branding example, the lion has been framed and released on many occasions. Similar design histories could be found in Dodge, Jaguar, and Citroën. Some brands even have used a framed and open logo simultaneously, such as See's Candies and Dell. See's Candies utilizes the framed and open logo on products or in marketing communications depending on design aesthetics. These design practices point to the essentiality of an in-depth study on the impact of frames. In addition, Starbucks' logo redesign inspired the current study with its possible impact on brand extension management.

Starbucks new logo brought the Siren out of the circle and dropped the words "Starbucks Coffee" in 2011. Freeing the Siren from the logo was a forerunner for an extensive new brand strategy that aimed to equip its brand with the flexibility to explore product innovation (Wheeler 2017). "Starbucks is committed to the new logo. We made this change to support our strategic and business decisions," the coffee giant announced. Starbucks' CEO Howard Shultz also hinted that Starbucks' patrons could expect this evolution starting in the spring of 2011 (Kavilanz 2011). While Shultz did not offer any details at that moment, Starbucks soon expanded its juice, bakery, and tea business by acquiring Evolution Fresh (Cannold 2011; Isidore 2012), Bay Bread (Tadena 2012), and Teavana Tea (Fox 2012), respectively. The brand extension progress paralleled Shultz's words. Although removing the "coffee" from the logo literally released Starbucks from the specific product category, current research is interested in examining the wisdom of such a move-whether bringing the Siren out of the logo frame could contribute to the expansive brand strategy.

Research acknowledges that visual closure and openness can encourage people to process information in a discrete and integrated way. Specifically, Meyers-Levy and Zhu (2007) demonstrated that people in a low or high ceilinged room tended to generate item-specific or relational elaboration, respectively. Myrseth and Fishbach (2009) provided another case that individuals who used a calendar with grids would separate activities by dates; however, removing the grids from a calendar directed individuals to identify the relations among these activities. These previous findings regarding the frame effect support the current study which proposes that erecting or removing a logo frame may direct people to process information through item-specific or relational elaboration.

Starting from the real cases of erasing and adding the logo frame, the current paper first explored the connection between the presence of a frame and the types of elaboration in Study 1. After the mechanism of removing the logo frame to relational elaboration was verified, Study 2 used free association to further confirm that a logo without a frame may evoke more product associations and more abstract product categories to reflect relational elaboration. Based on the mechanism of relational and item-specific elaborations, the related CA model was introduced to establish the theoretical foundation of Study 3 and Study 4. Study 3 then directly addresses the

issue of logo frames' effects on attitudes toward new extensions. Furthermore, Study 4 employed the visual distance on a logo and product map to illustrate the CA model and investigated the mediating effect of perceived distance on the relationship of logo frames and attitudes toward brand extensions.

Conceptual background

Brand characteristics generated by logo features

The previous literature has shown that consumers might infer a brand's characteristics from its logo design features, such as its name, typeface, shape, and color. For example, Hagtvedt ([2011](#)) indicated that an incomplete typeface logo disadvantages the perceived trustworthiness of a firm, and Jiang et al. ([2015](#)) found that a circular versus an angular-shaped logo activates a softness or hardness association with the product, respectively. However, the logo frame which is the focus of the current study did not garner enough notice in previous studies.

Logo frames and relational versus item-specific elaboration

Cognitive elaboration, associating new information with already stored knowledge in one's memory, plays a critical role in understanding consumer behaviors (Greenwald and Leavitt [1984](#)). Studies in psychology suggest two types of elaboration which facilitate comprehension in alternative ways (Einstein and Hunt [1980](#); Meyers-Levy [1991](#); Tversky [1977](#)). One is item-specific elaboration, which focuses on properties that are distinctive or unique between items. The other is relational elaboration, which involves focusing on similarities or shared concepts among disparate pieces of information.

Although the investigation of a logo frame's effect on elaboration types has not been conducted directly, two studies shine a light on this hypothesis. Meyers-Levy and Zhu ([2007](#)) examined a ceiling height's effect on consumers' information processing. They gave participants 36 multicategory items to remember. Following the filler questions, participants first had a free recall task that asked them to record as many of the 36 items as they could. Then, an aided recall task followed. Participants were provided the category labels and asked to recall the items under each category. They found that participants in a high (10 feet height) versus low (8 feet height) room exhibited more category clusters, indicating more relational elaborations. In contrast, participants in a low versus high ceilinged room identified more items during aided recall, suggesting a greater reliance on item-specific elaborations. Myrseth and Fishbach ([2009](#)) provided another case in which people who used a calendar with a grid would separate activities by dates. However, removing the grids from a calendar directed people to identify the relations among these activities across dates, which encouraged the identification of conflicts between the current unhealthy activities and the superior health goal. Recognizing these conflicts enhanced people' self-control about their unhealthy behavior. Myrseth and Fishbach's ([2009](#)) findings implied that removing calendar frames could enhance relational elaboration. These two studies provide a base for our hypothesis that a logo frame may play a similar role as ceiling height and calendar

grids which guides item-specific elaboration. Removing the logo frame may enhance relational elaborations in a similar way to heightening the ceiling and erasing the grids from a calendar did. The first hypothesis is proposed.

H1

Compared with a framed logo, removing the logo frame enhances relational elaborations.

Logo frame and brand portfolio association

Item-specific elaboration provides a discriminative function, which enhances consumers' recognition of specific products and advertisement claims (Alesandrini and Sheikh 1983; Meyers-Levy 1991). By contrast, relational elaboration contributes to a generative function by delineating the categorical information from which pieces of product or communication messages can be drawn as a whole.

Meyers-Levy (1991) examined the relationship between elaboration types (i.e., relational vs. item-specific elaboration) and consideration scope (i.e., a large or small set of considerations). Meyers-Levy found that large sets of considerations corresponded with relational elaboration. In line with Meyers-Levy (1991), if removing a logo frame can induce relational elaboration, a large set of product portfolio associations may follow. Thus, our second hypothesis:

H2a

Consumers generate more product associations when the logo frame is removed.

Alesandrini and Sheikh (1983) guided consumers to image product benefits, which pictorially symbolized the overall themes of the advertisement message and encouraged relational elaboration. The relational elaboration directed people to recall advertisement claims by a superior shared concept, such as comfort and durability. Relational elaboration leads people to consider "general relationships abstracted from the instances," which also defines what are superior categories (Einstein and Hunt 1980). Following Hypothesis H2a, among these associations, more superior categories (e.g., cosmetics) than specific products (e.g., lipstick and eyeshadow) may be observed when presenting an open logo. The following hypothesis is therefore proposed:

H2b

Consumers generate more superior categories when a brand has an open logo than a framed logo.

Two studies were conducted first to test these hypotheses. Study 1 focused on the underlying mechanism of relational elaboration for logo frame effects as proposed in Hypothesis H1. After the mechanism was verified, Study 2 directly employed framed

and open logos to reveal the contrast associations of relational and item-specific elaborations in order to verify H2a and H2b.

Study 1: Underlying mechanism of elaboration by logo frames

Method

Study 1 was designed to reveal the underlying mechanism regarding logo frames and elaboration types. As hypothesis H1 proposed, erecting and removing a logo frame may enhance consumers' item-specific and relational elaboration, respectively. Two indicators were mainly used to access the relational versus item-specific elaboration based on Murphy's (1979, p. 62) assumption that superior organization in cognition for relational elaboration results in fewer categories. Accordingly, the first indicator was defined by the number of categories. Fewer categories suggested relatively more relational elaborations. The other was indicated by category abstractness, which represents how general and abstract the category is (see a review in Burns and Brown 2000).

A categorization task of sport products was developed based on Meyers-Levy and Zhu (2007). Respondents received a list of disparate items within a broad product category (i.e., sports products). They were asked to categorize the products as they could, and then provide a descriptive label for each category. The number of categories was recorded to form the first elaboration indicator. The abstractness of descriptive labels for classifying products, i.e., category abstractness, was coded to create the second elaboration indicator.

Materials

The ten products were provided in cards, including skyboards, basketballs, sailing boats, swimming suits, parachutes, punching bags, chess, fishing rods, bicycles, and footballs. These items could be grouped into relatively concrete or objective categories (e.g., balls) or abstract categories (e.g., luxury products). The product items were presented in pictures with an open or a framed logo on the bottom right corner of each card. ("Appendix 1" shows the examples.

Participants and procedure

Sixty design school students (12 females and 48 males), with an average age of 20.62 (SD = 1.83), were recruited to participate in the study individually in exchange for €2 as the incentive. To make the logo stimulus reasonably salient and noticeable by the participants, a warm-up task was conducted. Participants were asked to evaluate the aesthetics and preference of a set of open or framed logos. Each set contained five logos except for the focal logo used in this experiment. The primary purpose of this warm-up instruction was to prime them to pay attention to the logos and the design

features in the main task. Participants were then asked to sort the product cards, identify as many different categories as they could, and label each category. No time limit was imposed.

Codings

The responses to the categorization task were coded in two ways: (1) the number of categories and (2) category abstractness which was coded by the criteria adapted from Semin and Fiedler's linguistic category model (1991).

This model distinguishes four levels of abstraction in language by which people describe others and human behaviors, from the most specific ones to the most general ones. The first and most concrete level consists of categories whose interpretation is objectively generated from observable events. Examples include labeled categories of sport products such as "the physical environment where people use the products (i.e., practice in the gym)" and "the physical shapes of the products (e.g., a ball)." The second level consists of categories which are less verifiable and require "interpretation beyond description" (Semin and Fiedler 1991, p. 5), such as "being for different activity intensity (e.g., resistance training)" and "how luxurious the products are (e.g., being affordable)" in sport products. At the third and highly abstract level are categories that reflect an individual's psychological state in relation to the items. Examples include the labels "I desire to have this product" and "It may provide me a unique experience." Such categories are highly interpretative and decontextualized. The fourth and most abstract level, which concerns people's dispositions, such as being social, timid, aggressive, was improper for describing the categories in the current study; thus, no category labels were coded at the fourth level.

Based on the above criteria, two independent coders who were blind to the experimental conditions and hypotheses coded participants' category labels into one of the three abstraction levels. Intercoder reliability was .92. The consensus of inconsistent codes was reached through full discussion. Following the same formula employed by Semin and Fiedler (1988), the category label's abstraction was measured by the sum of the frequencies identified as the ones at the first level (equal to item-specific elaborations), the ones at the secondary level multiplied by two, and the others at the third level multiplied by three (equal to relational elaborations). The sum was then divided by the total number of categories identified by each participant. The score described the category abstractness, ranging from one as the lowest abstract level to three as the highest abstract level, to access the level of relational elaboration by which participants used to categorize the sport products. As in previous studies (e.g., Douglas and Sutton 2003; see a review, Trope and Liberman 2010), the relative high scores of the category abstractness index indicate integrated and abstract cognition, which implies relational elaborations. Relational elaboration encourages people to consider the memberships and to abstract the concepts (e.g., resistance training) from specific products (e.g., dumbbell, Swiss ball, and treadmill). On the contrary, item-specific elaboration leads people to categorize these products by relatively descriptive criteria. For example, a Swiss ball would be grouped with basketballs, footballs, and volleyballs because they are all spheroids. The spheroid is a descriptive and objective criterion. However, a Swiss ball, dumbbell, and treadmill could also be grouped together as resistance training tools. The concept of resistance tools is relatively integrated and abstract. Therefore, the category abstractness enables the current study to access participants' elaboration types. Similar procedures for indicating category abstractness could also be found in Meyers-Levy and Zhu (2007).

Results and discussion

The presence and absence of logo frames generated significant effects on the two relational elaboration indicators: the number of categories and the category abstractness. First, participants used fewer categories to classify products when removing rather than exerting a logo frame (M_{open} = 3.57 vs. M_{framed} = 4.53; $F_{(1, 59)}$ = 7.91, p < .01). The fewer categories implied that they were superior categories containing more items. Second, participants who classified products with open logos generated more superior and abstract categories than those who did so with framed logos (M_{open} = 2.14 vs. M_{framed} = 1.31; $F_{(1, 59)}$ = 29.34, p < .001). These results supported H1 that removing a logo frame encouraged relational elaborations, which also provided the foundation for the further test of H2a and H2b.

The method of Study 1 followed previous categorization tasks (Meyers-Levy and Zhu 2007) to explore the effect of the logo frame on elaboration. Participants who received the sport products with an open logo tended to generate more relational elaborations, which were illustrated by fewer and more superior categories than when they saw products with a framed logo. The categorization task in Study 1 was an implicit way to reveal participants' thoughts. However, this method used given cards that might limited participants' natural associations. The next study was designed in a reverse way to unleash participants' elaborations in order to fully and directly investigate the effects of a logo frame.

Study 2: Logo frames' effects on product portfolio associations

Study 1 has illustrated that open logos where the frame was removed encouraged relational elaborations more than framed logos. The relational elaboration was indirectly supported by superior categories under the condition of categorizing limited items. Study 2 then intended to directly reveal the effect of logo frames on consumers' elaborations by requesting free association on framed versus open logos. This direct measurement allowed participants to generate relational or item-specific elaboration spontaneously. Participants were expected to associate more product categories and superior categories with a brand which has an open logo than a brand which has a framed logo, as proposed in hypotheses H2a and H2b.

Method

Materials

Six sets of open and framed logos, for the repeat measurement, were designed as the stimuli ("Appendix 1"). The chroma and brightness of logos were reviewed and balanced by two design experts. With respect to the logo shapes, the stimuli included both circular and angular logos. The only difference in each pair of stimuli was whether the logo had a frame or not.

Participants and procedure

One hundred and six undergraduate students (86 females and 20 males) mainly from business school, with an average age of 20.42 (SD = 1.22), participated in the experiment in exchange for €2. The skewed distribution of gender and age reflected the college population of the second author. Thus, gender and age were examined as dependent variables to confirm no confounding effects.

Participants were randomly assigned into two experimental conditions, i.e., open and framed logos. The six logos were presented in a random order. Participants reviewed each logo at their own pace and listed all the brand could possibly offer. The logo preference (1 = "I dislike the logo very much" to 7 = "I like the logo very much") was measured and used as a confounding check.

Prescreening the data

Participants generated a total number of 1676 associations with the six framed or open logo stimuli, with an average of 2.64 associations per logo per respondent. The associations were systematically coded by an 8-digit Global Trade Item Number (GTIN-8) list (GS1 2016), which is a global and multisector identifier for product classification and international trading, developed by Global Standards One. The GTIN-8 uses the first four digits to categorize product segment, family, class, and brick. The first and most general level, labeled the product segment, indicates a highly general product category, such as "beauty and personal care." The second level, labeled the product family, consists of subcategories under the product segment, such as "cosmetics." The third level, labeled the product class, consists of the relatively concrete categories under a product family. For example, the "makeup" category is a subdivision of "cosmetics." The fourth level, labeled the product brick, consists of specific products, such as "lipstick" or "eyeshadow." The GTIN enabled the identification of specific products (i.e., product brick) and superior categories (i.e., product category, family, and class) for current analysis.

The associations which were not covered by the GTIN list were excluded, such as Taoist magic figures. In the end, then, a total number of 1302 valid responses, with an average of 2.05 associations for each logo, were included for further analysis. The number of associations excluded from open and framed logo groups, i.e., the associations which were not covered by the GTIN list, did not significantly differ in a GLM with six repeated measurements examination ($F_{(1, 104)}$ = 2.13, *ns.*). The open and framed logos had a similar aesthetic preference ($F_{(1,104)}$ = 1.56, *ns.*), which suggests that the following found difference was not due to the confounding preference of open or framed logos.

Results and discussion

The descriptive statistics of dependent variables by six pairs of logos are presented in Table 1. In general, open logos could activate more product associations (M_{open} = 2.27 vs. M_{framed} = 1.83). The results of a repeat-measured one-way ANOVA indicated that participants generated more product associations when presented with an open logo rather than a framed logo ($F_{(1, 104)}$ = 8.45, *p* < .01), which supports H2a.

Table 1

Descriptive statistics of product associations and ratios of categories and items

	Number of product associations		Ratio of superior categories		Ratio of specific items	
	Mean	SD	Mean	SD	Mean	SD
Logo 1						
Framed	2.28	1.55	0.61	0.39	0.36	0.38
Open	2.51	1.34	0.67	0.35	0.32	0.34
Logo 2						
Framed	1.98	1.23	0.62	0.43	0.30	0.40
Open	2.58	1.20	0.70	0.32	0.26	0.29
Logo 3						
Framed	1.62	1.30	0.48	0.45	0.42	0.45
Open	2.32	1.24	0.62	0.39	0.33	0.37
Logo 4						
Framed	2.55	1.12	0.56	0.36	0.44	0.36
Open	2.58	1.42	0.49	0.38	0.47	0.38
Logo 5						
Framed	1.00	0.90	0.39	0.46	0.29	0.42
Open	1.53	1.32	0.66	0.43	0.12	0.25
Logo 6						
Framed	1.53	0.80	0.74	0.36	0.20	0.31

	Number of product associations		Ratio of superior categories		Ratio of specific items	
	Mean	SD	Mean	SD	Mean	SD
Open	2.08	1.21	0.70	0.34	0.25	0.30

Also, among the 1302 valid associations, superior categories, including product segment (3.53%), family (25.35%), and class (34.64%), accounted for 63.52%, while item-specific products accounted for 36.48%. Open logos tended to be able to evoke more superior category associations than framed logos (see Table 1). To examine H2b, the ratio of superior categories (i.e., product category, family, and class) out of total numbers of associations per participant was conducted. The results indicated that the superior category had higher weightage among the associations when the brand had an open rather than a framed logo (M_{open} = 0.64 vs. M_{framed} = 0.57; $F_{(1, 104)}$ = 18.42, $p < .001$). The result supported H2b.

The starting point of this research, Study 1, demonstrated that removing the logo frame prompted relational processing, as indicated by the relatively few and highly abstract categories. Study 2 added to this finding by showing that consumers could generate more product portfolio associations when there was an open rather than a framed logo presented. In Study 1, with the limited items, participants categorized items under highly abstract labels to reflect the relational elaboration when the items were marked by an open logo, while in Study 2, participants spontaneously provided unlimited free associations to the logos. They generated more superior categories, which were also at the highly abstract level, among the associations when the brand had an open rather than a framed logo.

These two studies simply demonstrated that an open logo primed the use of relational elaboration and expanded the perceived product portfolio. Following these findings, it is natural to assume that the broad product portfolio may increase consumers' acceptance of the brand's dissimilar extension and thus prompt better attitudes toward the brand extension (Meyvis and Janiszewski 2004). The next study will directly explore the logo frame effect on consumers' attitudes toward brand extensions.

Although these results have demonstrated the relationship between logo frames and elaboration types, the first two studies provided only the mechanism by which removing a logo frame could enhance relational elaborations and further increase the scope of the perceived product portfolio, but did not explain why this mechanism happens. The theoretical understanding of brand extension attitudes is thin. Since the presence of a logo frame is related to the boundary of a brand's product category, the next study, drawing on the Category Adjustment model (Huttenlocher et al. 1991), explored how an individual processed an open or framed logo and how it could influence their brand extension attitudes.

Study 3: Logo frame's effect on extension fit and extension attitudes

Theoretical background

Brand extension fit and evaluations

Brand extension has been an important research domain in brand management. Most theoretical work is based on an attitude-transfer model, which suggests that when an extension fits with the brand, a consumer's positive attitude toward the parent brand can be transferred to the extension (Aaker and Keller 1990). Then, strong fit and favorable brand attitude are assumed to be the two necessary conditions for a successful extension (Aaker and Keller 1990; Grime et al. 2002). Mao and Krishnan (2006) further noted that extension fit was perceived by calibrating it to either a specific product (i.e., exemplar) or an abstraction of many products in the brand (i.e., prototype). They defined two extension fits: the exemplar fit and the prototype fit. The exemplar fit suggests that an extension is similar to an existing product of the brand, and the prototype fit suggests that an extension is close to a kind of average or central tendency of a brand's product portfolio. Both exemplar fits and prototype fits contribute to favorable extension evaluations.

Study 1 and Study 2 supported the idea that removing the logo frame enhanced relational elaboration, which in turn enlarged the product portfolio associations. A board product portfolio benefits the exemplar fit by providing consumers more candidates in product similarity considerations than a narrow product portfolio does (Boush and Loken 1991; Dacin and Smith 1994). The next section, which uses the Category Adjustment model, explains the fundamentals of how individuals form a category and change the perception of distance due to frames and boundaries. Category Adjustment models also imply how removing a frame or boundary could benefit the prototype fit of an extension.

Category Adjustment (CA) model

The CA model (Huttenlocher et al. 1991) explains how individuals encode spatial location information and retrieve this information from memory. Two steps are involved in spatial location coding. Individuals first use fine-grained information (e.g., a regional boundary) to estimate the direction and distance of an object's location from it. Second, these estimates are adjusted by categorical information about membership among the regions. Each category is represented by a prototype (the center of mass or a representative) at the center of the membership. Adjustments are made toward the prototype (Foreman and Gillett 1997; Holden et al. 2010; Huttenlocher et al. 1991). For instance, if the task is to remember a colleague's home, one may first identify which district the house is located in and use the district boundary as a reference to estimate the direction and distance within that district. The estimation could be that "Alice's home is three miles away from the south edge of Manhattan." Then, Alice's location would be adjusted toward the landmark of Manhattan or, more specifically, the Empire State Building.

The salient and fine-grained information contributes to the accuracy of location estimates but also introduces distortions. The most significant one may be the subdivision effect. Individuals overestimate or underestimate distances between objects that are in different regions or in the same region, respectively (Huttenlocher et al. 1991). The subdivision effect could also be observed in perceptual and conceptual categorizations (Coren and Girgus 1980; Farran et al. 2012; Huttenlocher et al. 2000; Newcombe et al. 1998). Coren and Girgus (1980) presented participants with two black and two white equally spaced circles and asked them to estimate the distances between the circles. Participants reported that within a perceptual group (i.e., white– white and black–black), the objects appeared closer together than they actually were, whereas when they assessed between perceptual groups (i.e., white–black), they appeared further apart than they actually were. Hund and Plumert (2003) presented participants with objects which varied along four conceptual categories (i.e., vehicles, clothing, food, and animals). Participants learned the locations of objects, which were marked by dots on the floor of a box. After learning these spatial relations, participants attempted to replace the objects without the aid of the dots. The results indicated that objects belonging to the same category were placed closer together and vice versa.

When the fine-grained information is unclear or absent, categorical information will dominate the location estimates. Plumert and Hund (2001) examined the competition between fine-grained and categorical information by increasing the salience of quadrants across three conditions. The task was to memorize the locations of 20 objects in an open, square box designed to look like a model house. The box either had no frames present or was divided into quadrants by lines or by walls. Following learning, the dots marking the locations were removed, and participants attempted to replace the objects and estimate the distances between target locations. Plumert and Hund (2001) found that when the lines or walls were presented, significantly larger estimates were observed for between rather than within quadrant distances, indicative of a strong subdivision effect. When the fine-grained information was absent (i.e., no frame conditions), categorical information dominated instead. A significant prototype effect followed participants placed the objects toward the regional center.

The interaction between the salience of fine-grained information (e.g., with and without frames) and high-level category information (e.g., perceptual or conceptual categorization) has also been studied. Farran et al. (2012) investigated this by presenting houses that were marked by dots (control condition) or distinct shapes (hearts, squares, circles, or Xs; perceptual grouping condition) on the floor of a box. The floor either had visual frames (items divided into quadrants by opaque walls) or no visual frames (no walls). Participants learned the locations of houses and then replaced the houses without the aid of the markers. The results suggested that participants overestimated or underestimated distances between houses which were marked by dots or by distinct shapes, respectively. Importantly, they found a frame through distance estimate interactions for the perceptual grouping condition. When the frames were present, significantly lower within versus between distance estimates were observed, which indicated the subdivision effect. However, when the frames were absent, the subdivision effect was not observed. Furthermore, both within and between quadrant distances were underestimated.

The findings of Plumert and Hund (2001) and Farran et al. (2012) noted that salient subdivision effects followed the visual frames (i.e., lines and walls). However, when the frames were removed, the subdivision effect was absent and the prototype effect was

present instead. Analogically, we propose that a logo frame could serve a similar role as the lines and walls in distance estimations but exert the subdivision effect on another domain, extension fit evaluation. In other words, consumers may overestimate the difference (i.e., distance) between an extension and the brand when the logo frame is present. However, when the logo frame is removed, the difference between an extension and the brand may decrease, which refers to extension fit.

The CA model notes that people would use the membership (i.e., categorical information) to adjust the initial location estimates toward the prototype in the category. Analogically, in a brand, the prototype represents the average or center of a brand's product portfolio (as the center of locations) or may be a representative product (as the landmark). Consumers may evaluate the extension fit based on the similarity to an existing product of the brand (i.e., exemplar fit) and then adjust the initial estimates toward the brand prototype. However, the prototype effect plays a main role when the fine-grained information is unclear or absent (e.g., no boundary condition in Farran et al. 2012). Drawing from this, removing the logo frame may prompt a positive extension fit and favorable extension attitudes as opposed to keeping the logo frame. Specifically, the hypothesis is:

H3

Consumers hold more favorable attitudes toward an extension when the frame of a logo is removed.

Method

In Study 3, participants reviewed brand extension scenarios in which a brand planned to launch a relatively far extension. After reviewing the scenarios, participants evaluated the extension. More favorable attitudes toward the brand extension were expected when the brand had an open rather than a framed logo.

Materials

Two sets of logos employed in Study 2 were included as the stimuli in the current study (marked with # in "Appendix 2"). To select the product category of parent brands for each set of logos, respondents' free associations in Study 2 were screened. The most associated product was used as the product category of the parent brand. The two sets of logos represented were sanitary pads and cookies under two fictitious brand names, Yunis and Berbon.

The pajama and energy drinks were chosen via a pretest to be the extension of the sanitary pad brand and cookies brand, respectively. These two brand extension scenarios were designed as printed advertisements in which a sanitary pad brand advertised its new pajama and a cookie brand launched its new energy drink.

Pretest

Fifty-seven undergraduate students (30 females and 27 males), with an average age of 19.54 (SD = 1.24), rated their aesthetic preference of the logo (1: I dislike the logo very much to 7 = I like the logo very much), the product similarity of the parent brands and the extensions (1 = very dissimilar to 7 = very similar), and the manufacturing difficulty of the extended products for the sanitary pad brand and cookies brand (1 = very easy to 7 = very difficult; Aaker and Keller <u>1990</u>). The result showed that the preference of the open logos and framed logos did not differ (M_{open} = 3.88 vs. M_{framed} = 3.80, $F_{(1, 55)}$ = 0.07). Participants considered that the extensions (i.e., pajama and energy drink) were dissimilar to the products which the parent brands currently offered (i.e., sanitary pad and cookies). Compared to the median of the 7-point scale, namely 4, pajamas were dissimilar to sanitary pads (one-sample $t_{(56)}$ = 3.15, p < .01) and energy drinks were not similar to cookies (one-sample $t_{(56)}$ = 3.21, p < .01). The findings confirmed that the pajama and energy drink were perceived to be a far but not impossible extension of sanitary pads and cookies, respectively. Furthermore, the manufacturing difficulty of the extensions, pajamas and energy drinks, did not differ ($M_{pajamas}$ = 3.51 vs. $M_{energy\ drink}$ = 3.74, paired $t_{(56)}$ = 1.59, *ns.*).

Participants and procedure

One hundred and seventeen undergraduate students (71 females and 46 males) mainly from business school, with an average age of 20.60 (SD = 2.30), participated in this study in exchange for a €2 reward. They were randomly assigned to review the two brand extension scenarios (shown in "<u>Appendix</u> 3") in which parent brands either had an open or a framed logo.

After reviewing the scenarios, participants evaluated the extensions on six seven-point items (1 = strongly disagree to 7 = strongly agree): (1) It is a good idea for the brand to launch this new extension, (2) launching this new extension is a proper move for this brand, (3) the extension will be popular in the market, (4) I like the extension, (5) I am willing to recommend this extension to my friends who need it, and (6) I will purchase this extension if I need one. Finally, participants rated the manufacturing difficulty of the extended products on the seven-point scales and provided their demographic information.

Results

The six items of evaluation formed one factor for both extensions, with Cronbach's alphas higher than .90 (pajamas: α = .92; energy drinks: α = .93). These items were then averaged to a score, which indicated the brand extension attitude. The manufacturing difficulty of the extensions, pajamas and energy drinks, did not differ ($M_{pajamas}$ = 3.26 vs. $M_{energy\ drink}$ = 3.29, paired $t_{(116)}$ = .30, *ns.*). Thus, no confounding effect from manufacturing difficulty should be involved. Gender and age were also examined on the extension attitude to confirm no confounding effects.

Participants generally held a better attitude toward the extension product when the logo frame was removed. When the brand of a sanitary pad extended to pajamas, participants' attitudes were more positive when the logo was open (M = 4.57, SD =

1.03) than when it was framed, 4.24 (SD = 1.02). The cookies' brand extending to energy drinks showed a similar result, where the average attitude toward the extension was 4.66 (SD = 1.12) with an open logo, but 4.10 (SD = 1.10) with a framed logo.

A further test was performed for our hypothesis by a one-way (logo: open vs. framed) ANOVA with two repeated measurements (parent brand: sanitary pad or cookies). The results demonstrated that respondents' attitudes toward brand extension depended on whether the brand had an open or a framed logo (M_{open} = 4.61 vs. M_{framed} = 4.17, $F_{(1, 115)}$ = 7.87, p < .01), which supported H3. Participants had more favorable attitudes toward the extensions from brands which had an open logo than those that had a framed logo. These results join with the findings of Study 1 and Study 2 in demonstrating that presenting and removing the logo frame influenced consumers' evaluation toward the extension through item-specific and relational elaboration, respectively.

Discussions

The results of Study 1 and Study 2 suggested that removing the frame from a logo could induce more relational elaborations, which implied wider and more abstract product categories. Study 3 directly applied these results on the condition of brand extension and supported the view that consumers had more favorable attitudes toward the extension when the logo frame was removed.

The findings of Study 3 also corresponded to the findings of Plumert and Hund ([2001](#)) and Farran et al. ([2012](#)): Namely, the item-specific elaboration may account for the subdivision effects which are found in the boundary condition; the relational elaboration, on the other hand, may contribute to the prototype effects which are observed in the no boundary condition.

Study 3 results were valuable but have two main limitations. First, the subdivision and prototype mechanism mentioned in the CA model were not explicitly embedded. A thorough investigation based on the CA model paradigm needs to be done. Second, attending to exact experimental designs, Study 3 employed the fictitious open and framed logo stimuli, and the presence or absence of a logo frame or not was the only difference between both sets of stimuli. For brand management practices, an investigation into the robustness of a logo frame's effect on real brand extension situations is warranted. Study 4 was designed to modify these two limitations.

Study 4: The effect of the logo frame on brand extensions of real brands

Starting from Study 3, the CA model was introduced to establish the basis of logo frame effects on brand extension. The CA model links the concepts of category membership and spatial distance. If the CA model truly acts as the foundation for logo frame effects on brand extension, consumers should first sense a closer proximity between the parent brand and extension product and then form a stronger acceptance toward the extension when the logo frame is removed. In other words, a mediating effect of perceived distance is hypothesized.

H4

Consumers hold more favorable attitudes toward an extension via perceiving a closer distance between the parent brand and extension when the frame of a logo is removed.

In order to reveal the concrete space concepts in the CA model to perform beyond an inference basis as shown in Study 3, Study 4 utilized locations on a space map in its experimental design. Also, the prototype effect plays a main role when the logo frame is removed (Farran et al. 2012). Therefore, Study 4 provided original products as the prototype. The extension product could be directly compared with the prototype to form the in-group or out-group perception. Another modification of Study 4 was that a real brand was used. The real brand was accompanied with its original products, so the prototype perception was natural. Furthermore, using true brands as the testing logos could demonstrate that the frame effect was not only effective on the fictitious brand, but strong enough to perform on real brands with existing brand images.

Method

Pretest

The actual brand logos from the markets were screened to select the focal brands for Study 4. The candidates were from the brands which use an open and framed logo simultaneously or the brands that have alternated between erecting and removing the logo frames in their logo evolution. Finally, Black & Decker, See's Candies, Baskin-Robbins, Dell, Peugeot, and Dodge were used for the product selection in the next pretest.

For each candidate brand, six to seven extension products were listed. The selection criterion was to identify an extension which had a medium distance from the original product category. Far extensions were hardly acceptable for consumers, while close extensions were easily accepted by consumers. Both might have a ceiling effect on the contribution of a logo frame.

Twenty participants were invited to provide their evaluation on the similarity of 31 pairs of products on a 7-point scale. In the end, power tools (Black & Decker) and toasters, and candies (See's) and coffee pods were the two pairs used in which the similarity displayed no difference from the middle point, four ($M = 3.70$, $t_{(1, 19)} = -0.88$; $M = 4.05$, $t_{(1, 19)} = 0.17$, respectively). Thus, Black & Decker extended to toasters and See's extended to coffee pods were the focal brands and extensions of Study 4.

Materials

To illustrate the concept of the CA model, an open or a framed logo with current products under the brand was placed to form a picture. The logo was located in the center and the products circled the logo. Then, seven alternative locations were marked around the focal logo and current products for the participants to place the new extension. The first location was settled along with the parent brand's original

offerings (as location 1 in "Appendix 4"). The distance from the center of the logo to the first location was the cardinal. The second location was placed on the circumference with a radius equal to twice the cardinal, and so on. Thus, the seven distances were an arithmetic progression, either levorotatory or dextrorotatory. The selected locations were coded from the closest to the farthest according to the scale of one to seven.

Procedure

Participants were randomly assigned into two experimental conditions, i.e., open and framed logos, and instructed to locate two new extensions for Black & Decker and See's. Then, participants evaluated the brand extensions for the same items used in Study 3: (1) It is a good idea for the brand to launch this new extension, (2) launching this new extension is a proper move for this brand, (3) the extension will be popular in the market, (4) I like the extension, (5) I am willing to recommend this extension to my friends who need it, and (6) I will purchase this extension if I need one. The six scores were averaged to indicate the brand extension attitude. The next step was to check all the possible confounding factors, including the similarity between the parent brands and the extension products, the similarity between the current products and the extension products, and the manufacturing difficulty. All these items were listed on 7-point scales. Finally, demographic information was collected.

Results

Forty-four undergraduate students (28 females and 16 males), with an average age of 22.98 (SD = 3.51), participated in the online experiment in exchange for €2. Gender and age were examined through dependent variables to confirm no confounding effects. The manufacturing difficulty for Black & Decker to make the toaster and See's to produce coffee pods did not differ ($M_{toaster}$ = 5.41 vs. $M_{coffee\ pods}$ = 5.00, paired $t_{(43)}$ = 1.69, $ns.$) and was without a confounding effect. Also, the similarity score between power tools and toasters was 4.50 (SD = 1.36) and between candy and coffee pods was 4.48 (SD = 1.30). No significant difference was found (paired $t_{(43)}$ = .09, $ns.$).

Location estimates

The average distance of a toaster to Black & Decker was 2.86 (SD = 1.20) with an open logo, but was 4.30 (SD = 1.80) when a framed logo was present. Similarly, the average distance of the coffee pods to See's Candies was 3.05 (SD = 1.16) with an open logo and 4.39 (SD = 1.41) with a framed logo. Obviously, participants perceived the extension was closer when the logo was open than with a frame.

A repeat-measured one-way ANOVA of two logos (open vs. framed) with two brands (Black & Decker and See's Candies) as the repeated measures, was conducted. The analyses revealed a significant effect of the logo frame (M_{open} = 2.95 vs. M_{framed} = 4.35, $F_{(1,\ 42)}$ = 18.83, $p < .01$). Participants estimated that new extensions were closer to the center of a brand's product portfolio when the brand had an open rather than a framed logo. This result implied that removing a logo frame may enhance the prototype effect by which a new extended product would be adjusted toward the center of membership.

Brand extension attitudes

The six items of extensions evaluation formed one factor for both Black & Decker (Cronbach's α = .96) and See's Candies (Cronbach's α = .95). These items were then averaged to indicate the brand extension attitude. The average attitude toward Black & Decker's toaster was 3.91 (SD = 1.32), and toward See's coffee pods was 4.41 (SD = 1.31). Participants generally had a better attitude toward Black & Decker's new extension when its logo was open (M = 4.40, SD = 1.33) than framed (M = 3.47, SD = 1.17). The same pattern was observed in See's Candies too. The average attitude toward the extension of See's Candies was 4.95 (SD = 1.25) with an open logo, but 3.92 (SD = 1.18) with a framed logo. The result of a repeat-measured one-way ANOVA indicated a significant main effect of the logo frame on brand extension attitudes (M_{open} = 4.67 vs. M_{framed} = 3.70, $F_{(1, 42)}$ = 10.65, p < .01). Participants had more favorable attitudes toward new extensions when its parent brand had an open rather than a framed logo.

Next, a mediating model was conducted to examine the mediator role of perceived distance in the relationship between logo frame and brand extension attitudes. It was expected that participants adjusted the extensions toward the center of its parent brand when the logo frames were removed, as a prototype effect observed in the CA model. The models supported this prediction that removing the logo frame shortens the location estimate from an extension to its parent brand and in turn favored the extension attitudes (averaged indirect effect = − .47), and the 95% confidence interval excluded zero (− .90 to − .14) after 2000 bootstrap estimates. The direct effect of logo frame on brand extension attitudes became nonsignificant (averaged direct effect = − .51; 95% CI − 1.06 to .04), suggesting a full mediation.

Discussions

The results of Study 4 double confirmed what was found in Study 3 that an open logo could evoke better attitudes toward the extension products than a framed logo. Furthermore, Study 4 followed the essence of CA model and used visual distance to illustrate the mediating effect of perceived distance between the extension and parent logo. Removing the frame from a logo could literally release the boundary of consumers' elaboration; thus, the in-group versus out-group differentiation became blurry. According to the CA model, no boundary and no segment suggested a close distance. Following the closer perceived distance, the brand extension became more reasonable, eventually generated more positive attitudes toward the extension.

Study 4 showed the full mediating effect of perceived distance, which not only supported the CA model, but also consisted with previous brand extension literature. In most brand extension studies, product similarity was considered the determinant of perceived extension fit. Also, consumers generally prefer the extension with a high perceived fit (Aaker and Keller 1990; Bottomley and Holden 2001, Boush and Loken 1991; Dawar 1996; Park et al. 1991). The product similarity was visually illustrated by the distance between the parent brand and extension product in Study 4. When participants placed the extension closer to the brand logo or prototype product, they then formed a better attitude toward the extension.

The case of See's Candies in Study 4 also echoes the logo frame's impact, while the logo consists of the product category (i.e., candies), which is similar to Starbuck's case. One might question that Starbucks's extension opportunity could be mainly a result of removing the product category "coffee" literally, but not related to removing the frame. The finding of See's Candies case revealed the mere effect of erasing the logo frame without touching the product category, candies.

General discussion and brand management implications

This research concentrated on a basic feature of logos: the frame. As shown in four studies, the mere adding or removing of logo frames could influence consumers' perceptions about a brand and attitudes toward its future extensions. The first study explored that the relational and item-specific elaborations formed the underlying mechanism of the effect of logo frames. Removing a logo frame could release the perceived boundary and evoke relational elaborations. Study 2 demonstrated the logo frame's effect on perceived brand breadth. That is, consumers may spontaneously use relational and item-specific elaboration when encountering an open and framed logo, respectively. Because the mechanism of relational and item-specific elaborations is related to the CA model, the next two studies were designed to verify this theoretical foundation. Study 3 directly demonstrated the logo frame effects on attitudes toward the new extensions. Study 4 explicitly employed the visual distance to illustrate the intrinsic quality of the CA model and revealed the fully mediating effect of perceived distance on the relationship of logo frames and extension attitudes.

The fact that design features on a logo influence brand image may not be surprising news for consumer research (e.g., Fajardo et al. 2016; Henderson et al. 2004; Jiang et al. 2015). The current study extends previous relevant works in two respects. First, the open versus framed logos are shown to influence perceived brand breadth and brand extension attitudes and show that such logo frame effects may go beyond logo preference. Second, even though the design features' effects have been in marketing literature for decades, the inference generation process itself has rarely been discussed or empirically examined (e.g., Jiang et al. 2015; Meyers-Levy and Zhu 2007). Our research is the first to identify the possible underlying mechanism which may be responsible for the logo frame effect on perceived brand breadth. The evidence of the underlying mechanisms illustrated that open versus framed logos can prime consumers' relational versus item-specific elaboration differently. Also, as indicated by the CA model, this mechanism was due to the perceived distance, which was changed by the presence of a logo frame.

The CA model literature provides the current study a theoretical foundation to understand how a visual frame of a brand logo affects consumer's category associations and perceptions of a new brand extension. Encoding a brand's products can be in parallel with the location memory. The CA model has been applied on non-spatial categorizations, such as shapes and colors (Coren and Girgus 1980), and vehicles and animals (Hund and Plumert 2003), but the current study extends the CA model to another non-spatial categorization, the brand. We first considered the item-specific and relational elaborations accounting for the logo frame's effects. According to the CA model, people estimate the direction and distance of specific objects by

specific information, which aligns in turn with item-specific elaboration. They then use the categorical information, membership among the region, to adjust the objects toward the prototype, which involves relational elaboration. Specifically, the item-specific elaboration processes the unique features encoded with the individual items, and the relational elaboration connects the items with shared characteristic (e.g., categorical relationship; see Guynn et al. 2014).

This research suggested a marketing implication that marketers could lever brand perception and favor the brand extensions through an easily manipulated design feature, the logo frame. The findings reveal that small changes in a logo design can have critical consequences for marketing. First, when a brand manager wishes to build a broad brand, an open logo is likely to benefit the brand position. In contrast, when a brand manager wants to create a consistent image, a framed logo may contribute more. Second, the findings show that the open and framed logos affect not only the perception of brand breadth but also the further brand extension attitudes. In sum, marketers could maximize the benefits from designing the logo in a way that fits a brand's position.

The brand association induced by logo frames should be thoroughly investigated as the follow-up of the current study. Fajardo et al. (2016) showed that framed logos satisfied the need for protection under a high-risk condition and then an enhanced purchase intention, whereas a logo frame decreased purchase intentions when consumers had a high need for freedom. Rahinel and Nelson (2016) provided the case that unstable-looking logos may cue a perception of an unsafe environment and subsequently increase the perceived utility of safety-oriented products. Thus, it would be valuable to know the brand associations inferred by an open logo and a framed logo. For example, Pizza Hut may narrow its brand breadth perception and further strengthen its prestige image in the pizza category by adding a frame on its new logo. The current findings can serve as a springboard for future research investigating the perceived brand image induced by logo frames.

Notes

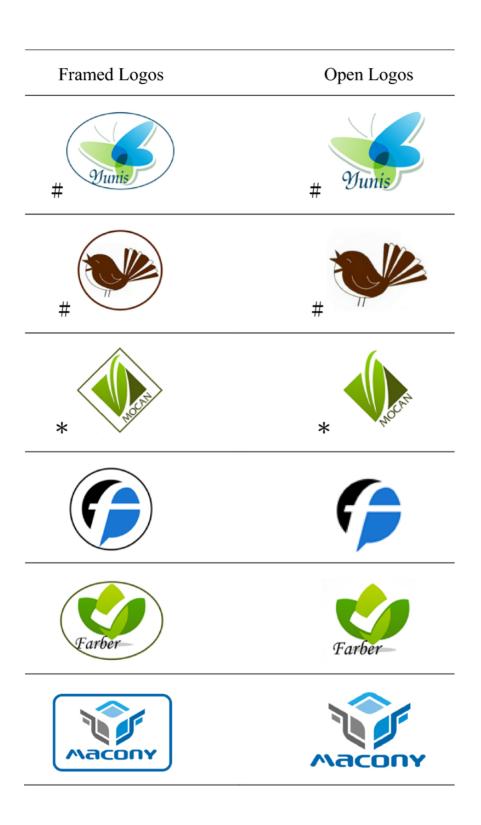## Funding

Appendix 1: Examples of product pictures with framed and open logos

Appendix 2: Logo stimuli used in Study 2

Framed Logos	Open Logos
#	#
#	#
*	*

Appendix 3: Brand extension scenarios used in Study 3

Framed Logos	Open Logos

衛生棉品牌Yunis

NEW 新推出多款睡衣

The sanitary pad brand Yunis will launch pajamas.

衛生棉品牌Yunis

NEW 新推出多款睡衣

餅乾製造商Berbon

新推出碳酸能量飲料 NEW

The cookie brand Berbon will launch energy drinks.

餅乾製造商Berbon

新推出碳酸能量飲料 NEW

Appendix 4: Map for locating new extensions, with the products dextrorotarily around the logo—Black & Decker

BLACK&
DECKER.

1 2

3

4

5

6

7

References

Aaker, D.A., and K.L. Keller. 1990. Consumer evaluations of brand extensions. *Journal of Marketing* 54 (1): 27–41.

Google Scholar (http://scholar.google.com/scholar_lookup?title=Consumer%20evaluations%20of%20brand%20extensions&author=DA.%20Aaker&author=KL.%20Keller&journal=Journal%20of%20Marketing&volume=54&issue=1&pages=27-41&publication_year=1990)

Alesandrini, K.L., and A.A. Sheikh. 1983. Research on imagery: Implications for advertising. In *Imagery: Current theory, research and application*, ed. A.A. Sheikh, 535–556. New York: Wiley.

Google Scholar (http://scholar.google.com/scholar_lookup?title=Research%20on%20imagery%3A%20Implications%20for%20advertising&author=KL.%20Alesandrini&author=AA.%20Sheikh&pages=535-556&publication_year=1983)

Bottomley, P.A., and S.J.S. Holden. 2001. Do we really know how consumers evaluate brand extensions? Empirical generalizations based on secondary analysis of eight studies. *Journal of Marketing Research* 38: 494–500.

Google Scholar (http://scholar.google.com/scholar_lookup?title=Do%20we%20really%20know%20how%20consumers%20evaluate%20brand%20extensions%3F%20Empirical%20generalizations%20based%20on%20secondary%20analysis%20of%20eight%20studies&author=PA.%20Bottomley&author=SJS.%20Holden&journal=Journal%20of%20Marketing%20Research&volume=38&pages=494-500&publication_year=2001)

Boush, D.M., and B. Loken. 1991. A process-tracing study of brand extension evaluation. *Journal of Marketing Research* 28 (1): 16–28.

Google Scholar (http://scholar.google.com/scholar_lookup?title=A%20process-tracing%20study%20of%20brand%20extension%20evaluation&author=DM.%20Boush&author=B.%20Loken&journal=Journal%20of%20Marketing%20Research&volume=28&issue=1&pages=16-28&publication_year=1991)

Burns, D.J., and C.A. Brown. 2000. Observations: The category access measure of relational processing. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 26 (4): 1057–1062.

Google Scholar (http://scholar.google.com/scholar_lookup?title=Observations%3A%20The%20category%20access%20measure%20of%20relational%20processing&author=DJ.%20Burns&author=CA.%20Brown&journal=Journal%20of%20Experimental%20Psychology%3A%20Learning%2C%20Memory%2C%20and%20Cognition&volume=26&issue=4&pages=1057-1062&publication_year=2000)

Cannold, J. 2011. *Starbucks buys juice maker evolution fresh*. CNNMoney November 10, 2011.

http://money.cnn.com/2011/11/10/news/companies/starbucks_juice_evolution_fresh/index.htm (http://money.cnn.com/2011/11/10/news/companies/starbucks_juice_evolution_fresh/index.htm).

Coren, S., and J.S. Girgus. 1980. Principles of perceptual organization and spatial distortion: The gestalt illusions. *Journal of Experimental Psychology: Human Perception and Performance* 6 (3): 404–412.

Google Scholar (http://scholar.google.com/scholar_lookup?title=Principles%20of%20perceptual%20organization%20and%20spatial%20distortion%3A%20The%20gestalt%20illusions&author=S.%20Coren&author=JS.%20Girgus&journal=Journal%20of%20Experimental%20Psychology%3A%20Human%20Perception%20and%20Performance&volume=6&issue=3&pages=404-412&publication_year=1980)

Dacin, P.A., and D.C. Smith. 1994. The effect of brand portfolio characteristics on consumer evaluations of brand extensions. *Journal of Marketing Research* 31 (2): 229–242.

Google Scholar (http://scholar.google.com/scholar_lookup?
title=The%20effect%20of%20brand%20portfolio%20characteristics%20on%20consu
mer%20evaluations%20of%20brand%20extensions&author=PA.%20Dacin&author=
DC.%20Smith&journal=Journal%20of%20Marketing%20Research&volume=31&issu
e=2&pages=229-242&publication_year=1994)

Dawar, N. 1996. Extensions of broad brands: The role of retrieval in evaluations of fit. *Journal of Consumer Psychology* 5 (2): 189–207.

Google Scholar (http://scholar.google.com/scholar_lookup?
title=Extensions%20of%20broad%20brands%3A%20The%20role%20of%20retrieval
%20in%20evaluations%20of%20fit&author=N.%20Dawar&journal=Journal%20of%2
0Consumer%20Psychology&volume=5&issue=2&pages=189-
207&publication_year=1996)

Douglas, K.M., and R.M. Sutton. 2003. Effects of communication goals and expectancies on language abstraction. *Journal of Personality and Social Psychology* 84 (4): 682–696.

Google Scholar (http://scholar.google.com/scholar_lookup?
title=Effects%20of%20communication%20goals%20and%20expectancies%20on%20l
anguage%20abstraction&author=KM.%20Douglas&author=RM.%20Sutton&journal=
Journal%20of%20Personality%20and%20Social%20Psychology&volume=84&issue=
4&pages=682-696&publication_year=2003)

Einstein, G.O., and R.R. Hunt. 1980. Levels of processing and organization: Additive effects of individual-item and relational processing. *Journal of Experimental Psychology: Human Learning and Memory* 6 (5): 588–598.

Google Scholar (http://scholar.google.com/scholar_lookup?
title=Levels%20of%20processing%20and%20organization%3A%20Additive%20effect
s%20of%20individual-
item%20and%20relational%20processing&author=GO.%20Einstein&author=RR.%2
0Hunt&journal=Journal%20of%20Experimental%20Psychology%3A%20Human%20
Learning%20and%20Memory&volume=6&issue=5&pages=588-
598&publication_year=1980)

Fajardo, T.M., J. Zhang, and M. Tsiros. 2016. The contingent nature of the symbolic associations of visual design elements: The case of brand logo frames. *Journal of Consumer Research* 43 (4): 549–566.

Google Scholar (http://scholar.google.com/scholar_lookup?
title=The%20contingent%20nature%20of%20the%20symbolic%20associations%20of
%20visual%20design%20elements%3A%20The%20case%20of%20brand%20logo%2
0frames&author=TM.%20Fajardo&author=J.%20Zhang&author=M.%20Tsiros&jour
nal=Journal%20of%20Consumer%20Research&volume=43&issue=4&pages=549-
566&publication_year=2016)

Farran, E.K., S.C. Connell, and B.K. Pharwaha. 2012. The effects of perceptual grouping and category boundary salience on location memory. *Psychology* 3 (11): 953–958.

Google Scholar (http://scholar.google.com/scholar_lookup?
title=The%20effects%20of%20perceptual%20grouping%20and%20category%20boun
dary%20salience%20on%20location%20memory&author=EK.%20Farran&author=SC
.%20Connell&author=BK.%20Pharwaha&journal=Psychology&volume=3&issue=11&
pages=953-958&publication_year=2012)

Foreman, N., and R. Gillett. 1997. *A handbook of spatial research paradigms and methodologies*, Vol. 2. London: Psychology Press.
Google Scholar (https://scholar.google.com/scholar?
q=Foreman%2C%20N.%2C%20and%20R.%20Gillett.%201997.%20A%20handbook%
20of%20spatial%20research%20paradigms%20and%20methodologies%2C%20Vol.%
202.%20London%3A%20Psychology%20Press.)

Fox, E.J. 2012. *Teavana up 50% on starbucks acquisition*. CNN Money November 14, 2012. http://money.cnn.com/2012/11/14/news/starbucks-teavana/index.html
 (http://money.cnn.com/2012/11/14/news/starbucks-teavana/index.html).

Globe Standard One (GS1). 2016. Global Trade Item Number (GTIN) General Specifications, version 16. Retrieved 26 March, 2016, from
https://www.gs1.org/standards/barcodes-epcrfid-id-keys/gs1-general-specifications
 (https://www.gs1.org/standards/barcodes-epcrfid-id-keys/gs1-general-
specifications).

Greenwald, A.G., and C. Leavitt. 1984. Audience involvement in advertising: Four levels. *Journal of Consumer Research* 11 (1): 581–592.
Google Scholar (http://scholar.google.com/scholar_lookup?
title=Audience%20involvement%20in%20advertising%3A%20Four%20levels&author
=AG.%20Greenwald&author=C.%20Leavitt&journal=Journal%20of%20Consumer%2
0Research&volume=11&issue=1&pages=581-592&publication_year=1984)

Grime, I., D. Adamantios, and G. Smith. 2002. Consumer evaluations of extensions and their effects on the core brand: Key issues and research propositions. *European Journal of Marketing* 36 (11/12): 1415–1438.
Google Scholar (http://scholar.google.com/scholar_lookup?
title=Consumer%20evaluations%20of%20extensions%20and%20their%20effects%20
on%20the%20core%20brand%3A%20Key%20issues%20and%20research%20proposi
tions&author=I.%20Grime&author=D.%20Adamantios&author=G.%20Smith&journa
l=European%20Journal%20of%20Marketing&volume=36&issue=11%2F12&pages=14
15-1438&publication_year=2002)

Guynn, M.J., M.A. McDaniel, G.L. Strosser, J.M. Ramirez, E.H. Castleberry, and K.H. Arnett. 2014. Relational and item-specific influences on generate–recognize processes in recall. *Memory & Cognition* 42 (2): 198–211.
Google Scholar (http://scholar.google.com/scholar_lookup?
title=Relational%20and%20item-
specific%20influences%20on%20generate%E2%80%93recognize%20processes%20in
%20recall&author=MJ.%20Guynn&author=MA.%20McDaniel&author=GL.%20Stros
ser&author=JM.%20Ramirez&author=EH.%20Castleberry&author=KH.%20Arnett&j
ournal=Memory%20%26%20Cognition&volume=42&issue=2&pages=198-
211&publication_year=2014)

Hagtvedt, H. 2011. The impact of incomplete typeface logos on perceptions of the firm. *Journal of Marketing* 75 (4): 86–93.
Google Scholar (http://scholar.google.com/scholar_lookup?
title=The%20impact%20of%20incomplete%20typeface%20logos%20on%20perceptio
ns%20of%20the%20firm&author=H.%20Hagtvedt&journal=Journal%20of%20Mark
eting&volume=75&issue=4&pages=86-93&publication_year=2011)

Henderson, P.W., J.L. Giese, and J.A. Cote. 2004. Impression management using typeface design. *Journal of Marketing* 68 (4): 60–72.
Google Scholar (http://scholar.google.com/scholar_lookup?
title=Impression%20management%20using%20typeface%20design&author=PW.%20
Henderson&author=JL.%20Giese&author=JA.%20Cote&journal=Journal%20of%20
Marketing&volume=68&issue=4&pages=60-72&publication_year=2004)

Holden, M.P., K.M. Curby, N.S. Newcombe, and T.F. Shipley. 2010. A category adjustment approach to memory for spatial location in natural scenes. *Journal of Experimental Psychology. Learning, Memory, and Cognition* 36 (3): 590–604.
Google Scholar (http://scholar.google.com/scholar_lookup?title=A%20category%20adjustment%20approach%20to%20memory%20for%20spatial%20location%20in%20natural%20scenes&author=MP.%20Holden&author=KM.%20Curby&author=NS.%20Newcombe&author=TF.%20Shipley&journal=Journal%20of%20Experimental%20Psychology.%20Learning%2C%20Memory%2C%20and%20Cognition&volume=36&issue=3&pages=590-604&publication_year=2010)

Hund, A.M., and J.M. Plumert. 2003. Does information about what things are influence children's memory for where things are? *Developmental Psychology* 39 (6): 939–948.
Google Scholar (http://scholar.google.com/scholar_lookup?title=Does%20information%20about%20what%20things%20are%20influence%20children%E2%80%99s%20memory%20for%20where%20things%20are%3F&author=AM.%20Hund&author=JM.%20Plumert&journal=Developmental%20Psychology&volume=39&issue=6&pages=939-948&publication_year=2003)

Huttenlocher, J., L.V. Hedges, and S. Duncan. 1991. Categories and particulars: Prototype effects in estimating spatial location. *Psychological Review* 98 (3): 352–376.
Google Scholar (http://scholar.google.com/scholar_lookup?title=Categories%20and%20particulars%3A%20Prototype%20effects%20in%20estimating%20spatial%20location&author=J.%20Huttenlocher&author=LV.%20Hedges&author=S.%20Duncan&journal=Psychological%20Review&volume=98&issue=3&pages=352-376&publication_year=1991)

Huttenlocher, J., L.V. Hedges, and J.L. Vevea. 2000. Why do categories affect stimulus judgment? *Journal of Experimental Psychology: General* 129 (2): 220–241.
Google Scholar (http://scholar.google.com/scholar_lookup?title=Why%20do%20categories%20affect%20stimulus%20judgment%3F&author=J.%20Huttenlocher&author=LV.%20Hedges&author=JL.%20Vevea&journal=Journal%20of%20Experimental%20Psychology%3A%20General&volume=129&issue=2&pages=220-241&publication_year=2000)

Isidore, C. 2012. Starbucks opens its first juice bar. *CNN Money* March 19, 2012. http://money.cnn.com/2012/03/19/news/companies/starbucks-juice/index.htm (http://money.cnn.com/2012/03/19/news/companies/starbucks-juice/index.htm).

Jiang, Y., G.J. Gorn, M. Galli, and A. Chattopadhyay. 2015. Does your company have the right logo? How and why circular- and angular-logo shapes influence brand attribute judgments. *Journal of Consumer Research* 42 (5): 709–726.
Google Scholar (http://scholar.google.com/scholar_lookup?title=Does%20your%20company%20have%20the%20right%20logo%3F%20How%20and%20why%20circular-%20and%20angular-logo%20shapes%20influence%20brand%20attribute%20judgments&author=Y.%20Jiang&author=GJ.%20Gorn&author=M.%20Galli&author=A.%20Chattopadhyay&journal=Journal%20of%20Consumer%20Research&volume=42&issue=5&pages=709-726&publication_year=2015)

Kavilanz, P. 2011. *Starbucks unveils a new logo*. CNN Money January 5, 2011. http://money.cnn.com/2011/01/05/news/companies/starbucks_new_logo/index.htm (http://money.cnn.com/2011/01/05/news/companies/starbucks_new_logo/index.htm).

Mao, H., and H. Krishnan. 2006. Effects of prototype and exemplar fit on brand extension evaluations: A two-process contingency model. *Journal of Consumer*

Research 33 (1): 41–49.

Google Scholar (http://scholar.google.com/scholar_lookup?
title=Effects%20of%20prototype%20and%20exemplar%20fit%20on%20brand%20ex
tension%20evaluations%3A%20A%20two-
process%20contingency%20model&author=H.%20Mao&author=H.%20Krishnan&jo
urnal=Journal%20of%20Consumer%20Research&volume=33&issue=1&pages=41-
49&publication_year=2006)

Meyers-Levy, J. 1991. Elaborating on elaboration: The distinction between relational
and item-specific elaboration. *Journal of Consumer Research* 18 (3): 358–367.

Google Scholar (http://scholar.google.com/scholar_lookup?
title=Elaborating%20on%20elaboration%3A%20The%20distinction%20between%20r
elational%20and%20item-specific%20elaboration&author=J.%20Meyers-
Levy&journal=Journal%20of%20Consumer%20Research&volume=18&issue=3&page
s=358-367&publication_year=1991)

Meyers-Levy, J., and R. Zhu. 2007. The influence of ceiling height: The effect of
priming on the type of processing that people use. *Journal of Consumer Research* 34
(2): 174–186.

Google Scholar (http://scholar.google.com/scholar_lookup?
title=The%20influence%20of%20ceiling%20height%3A%20The%20effect%20of%20p
riming%20on%20the%20type%20of%20processing%20that%20people%20use&auth
or=J.%20Meyers-
Levy&author=R.%20Zhu&journal=Journal%20of%20Consumer%20Research&volum
e=34&issue=2&pages=174-186&publication_year=2007)

Meyvis, T. and C. Janiszewski. 2004. When are broader brands stronger brands? An
accessibility perspective on the success of brand extensions. *Journal of Consumer
Research* 31 (2): 346–357.

Google Scholar (http://scholar.google.com/scholar_lookup?
title=When%20are%20broader%20brands%20stronger%20brands%3F%20An%20ac
cessibility%20perspective%20on%20the%20success%20of%20brand%20extensions&
author=T.%20Meyvis&author=C.%20Janiszewski&journal=Journal%20of%20Consu
mer%20Research&volume=31&issue=2&pages=346-357&publication_year=2004)

Murphy, M.D. 1979. Measurement of category clustering in free recall. In *Memory
organization and structure*, ed. Puff, C.R, 51–83. New York: Academic Press.

Google Scholar (http://scholar.google.com/scholar_lookup?
title=Measurement%20of%20category%20clustering%20in%20free%20recall&author
=MD.%20Murphy&pages=51-83&publication_year=1979)

Myrseth, K.O.R. and A. Fishbach. 2009. Self-control: A function of knowing when and
how to exercise restraint. *Current Directions in Psychological Science* 18 (4): 247–
252.

Google Scholar (http://scholar.google.com/scholar_lookup?title=Self-
control%3A%20A%20function%20of%20knowing%20when%20and%20how%20to%
20exercise%20restraint&author=KOR.%20Myrseth&author=A.%20Fishbach&journal
=Current%20Directions%20in%20Psychological%20Science&volume=18&issue=4&p
ages=247-252&publication_year=2009)

Newcombe, N., J. Huttenlocher, A.B. Drummey, and J.G. Wiley. 1998. The
development of spatial location coding: Place learning and dead reckoning in the
second and third years. *Cognitive Development* 13 (2): 185–200.

Google Scholar (http://scholar.google.com/scholar_lookup?
title=The%20development%20of%20spatial%20location%20coding%3A%20Place%2
0learning%20and%20dead%20reckoning%20in%20the%20second%20and%20third
%20years&author=N.%20Newcombe&author=J.%20Huttenlocher&author=AB.%20D

rummey&author=JG.%20Wiley&journal=Cognitive%20Development&volume=13&iss
ue=2&pages=185-200&publication_year=1998)

Park, C.W., S. Milberg, and R. Lawson. 1991. Evaluation of brand extensions: The role of product feature similarity and brand concept consistency. *Journal of Consumer Research* 18 (9): 185–193.
Google Scholar (http://scholar.google.com/scholar_lookup?
title=Evaluation%20of%20brand%20extensions%3A%20The%20role%20of%20prod
uct%20feature%20similarity%20and%20brand%20concept%20consistency&author=
CW.%20Park&author=S.%20Milberg&author=R.%20Lawson&journal=Journal%20of
%20Consumer%20Research&volume=18&issue=9&pages=185-
193&publication_year=1991)

Plumert, J.M., and A.M. Hund. 2001. The development of memory for location: What role do spatial prototypes play? *Child Development* 72 (2): 370–384.
Google Scholar (http://scholar.google.com/scholar_lookup?
title=The%20development%20of%20memory%20for%20location%3A%20What%20r
ole%20do%20spatial%20prototypes%20play%3F&author=JM.%20Plumert&author=
AM.%20Hund&journal=Child%20Development&volume=72&issue=2&pages=370-
384&publication_year=2001)

Rahinel, R. and N.M. Nelson. 2016. When brand logos describe the environment: Design instability and the utility of safety-oriented products. *Journal of Consumer Research* 43 (3): 478–496.
Google Scholar (http://scholar.google.com/scholar_lookup?
title=When%20brand%20logos%20describe%20the%20environment%3A%20Design
%20instability%20and%20the%20utility%20of%20safety-
oriented%20products&author=R.%20Rahinel&author=NM.%20Nelson&journal=Jour
nal%20of%20Consumer%20Research&volume=43&issue=3&pages=478-
496&publication_year=2016)

Semin, G.R. and K. Fiedler. 1988. The cognitive functions of linguistic categories in describing persons: Social cognition and language. *Journal of Personality and Social Psychology* 54 (4): 558–568.
Google Scholar (http://scholar.google.com/scholar_lookup?
title=The%20cognitive%20functions%20of%20linguistic%20categories%20in%20des
cribing%20persons%3A%20Social%20cognition%20and%20language&author=GR.%
20Semin&author=K.%20Fiedler&journal=Journal%20of%20Personality%20and%20
Social%20Psychology&volume=54&issue=4&pages=558-
568&publication_year=1988)

Semin, G.R. and K. Fiedler. 1991. The linguistic category model, its bases, applications and range. *European Review of Social Psychology* 2 (1): 1–30.
Google Scholar (http://scholar.google.com/scholar_lookup?
title=The%20linguistic%20category%20model%2C%20its%20bases%2C%20applicati
ons%20and%20range&author=GR.%20Semin&author=K.%20Fiedler&journal=Europ
ean%20Review%20of%20Social%20Psychology&volume=2&issue=1&pages=1-
30&publication_year=1991)

Tadena, N. 2012. Starbucks to buy bay bread for $100 million. *The Wall Street Journal.*
https://www.wsj.com/articles/SB10001424052702303830204577446760487158
17 (https://www.wsj.com/articles/SB10001424052702303830204577446760487158
17).

Trope, Y., and N. Liberman. 2010. Construal-level theory of psychological distance. *Psychological Review* 117 (2): 440–463.
Google Scholar (http://scholar.google.com/scholar_lookup?title=Construal-
level%20theory%20of%20psychological%20distance&author=Y.%20Trope&author=N

.%20Liberman&journal=Psychological%20Review&volume=117&issue=2&pages=440
-463&publication_year=2010)

Tversky, A. 1977. Features of similarity. *Psychological Review* 84 (4): 327–352.
Google Scholar (http://scholar.google.com/scholar_lookup?
title=Features%20of%20similarity&author=A.%20Tversky&journal=Psychological%2
0Review&volume=84&issue=4&pages=327-352&publication_year=1977)

Wheeler, A. 2017. *Designing brand identity: An essential guide for the whole
branding team.* New York: Wiley.
Google Scholar (http://scholar.google.com/scholar_lookup?
title=Designing%20brand%20identity%3A%20An%20essential%20guide%20for%20t
he%20whole%20branding%20team&author=A.%20Wheeler&publication_year=2017)

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