The Effects of Extensions on the Family Brand Name: An Accessibility-Diagnosticity Perspective

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Previous research has led to mixed findings regarding the effect of extensions on the family brand name. This research identifies "accessibility of extension information" as a factor that moderates the effects of the valence of extension information and extension category on brand evaluations. Under higher accessibility, negative information about the extension led to dilution and positive information led to enhancement of the family brand regardless of extension category. Under lower accessibility, extension information affected evaluations based on category diagnosticity. Negative information about a close (vs. far) extension led to dilution and positive information about a far (vs. close) extension led to enhancement.

Consider the following scenario. A new line of TV sets is introduced in the marketplace under the brand name "Sharp." A Consumer Reports article features this new line as unreliable. Will this negative information about the extension dilute the family brand image? What happens if the negative information is about a new line of vacuum cleaners instead of a TV set? In other words, will dilution effects vary as a function of extension category? Some research suggests that dilution effects are more likely for close (vs. far) extensions, whereas other research suggests that dilution occurs regardless of extension category or does not occur at all (Keller and Aaker 1992; Lane and Jacobson 1997; Loken and John 1993; Milberg, Park, and McCarthy 1997; Romeo 1991). Consider another variation of this scenario. A Consumer Reports article features this new line as one of the most reliable products in the marketplace. Will such positive information enhance the family brand image? It is difficult to answer this question based on the limited amount of research that has addressed the effects of positive extension information on the family brand name.

The current research attempts to answer the above ques-

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its high accessibility (Menon and Raghunir 2000). In contrast, under lower accessibility conditions, diagnosticity of extension information is likely to determine its impact on brand evaluations. That is, under such conditions, unless the extension information is highly diagnostic, consumers are more likely to revert to their prior beliefs and evaluations of the brand as an alternative input in forming judgments about it.

It is important to note that, compared to previous research utilizing the accessibility-diagnosticity framework, the lower diagnosticity and accessibility levels examined in our research are at least moderate. This is because such levels are often realistic with respect to the branding area. Extension categories are often chosen based on shared attributes with the family brand. Therefore, the extension’s performance on these shared dimensions is likely to be at least moderately diagnostic or informative for the family brand, regardless of category similarity. Similarly, the extension information is likely to be at least somewhat accessible for the family brand evaluation, given our focus on situations where the extension has the family brand name. While some factors (e.g., large time gap) may make the extension information inaccessible, we do not focus on the latter scenario because its implications are fairly intuitive—inaccessible information will not be used in the judgment. Therefore, our research examines at least moderate levels of both accessibility and diagnosticity, which are not only realistic but also have important implications for the branding area.

In sum, past research on feedback effects of brand extensions has ignored the role of accessibility and oversimplified the notion of diagnosticity. By addressing the effects of accessibility and diagnosticity, our framework accounts for some of the mixed findings in the literature and addresses when and why feedback effects are likely to vary across different extension categories.

THEORETICAL BACKGROUND

Accessibility of Extension Information

According to the accessibility-diagnosticity model, any factor that increases the accessibility of an input is also expected to increase the likelihood with which that input will be used for the judgment. Therefore, in the brand extension context, temporal proximity between information about brand extension and family brand evaluation is likely to result in a disproportionate influence of the activated or accessible cognition (i.e., extension information) on the judgment (i.e., family brand evaluation) made shortly after its activation.

A review of previous research indicates that dilution/enhancement effects generally emerge in the presence of highly accessible extension information (Lane and Jacobson 1997; Loken and John 1993; Milberg et al. 1997). For example, in the Milberg et al. (1997) study, which examined negative feedback effects, subjects rated the family brand immediately after exposure to information about the extension, making extension information highly accessible at the time when family brand evaluations were assessed. Dilution effects were found in the context of both close and far extensions. Similarly, Lane and Jacobson (1997), who also focused on negative feedback effects, found dilution effects in a study where extension evaluations took place immediately prior to brand evaluations, making the extension information more accessible.

In the Loken and John (1993) study, subjects were questioned about their comprehension of target attributes after reading negative information about the extension. They found a dilution effect for both moderately typical and atypical extensions when the extension information was salient (i.e., when consumers rated their beliefs about the family brand name immediately after the comprehension task). However, when subjects rated the typicality of the extension before assessing beliefs about the family brand name, which is likely to have increased the salience of typicality judgments while decreasing the salience of the extension information, dilution did not occur for the atypical brand extensions. Subjects might have perceived information about atypical extensions as less diagnostic for evaluating the family brand.

Similarly, Romeo (1991) found dilution effects when the extension was closely associated to the family brand, although these effects were only marginally significant. Subjects were told that they would evaluate a case study and were asked questions about the case before they expressed their evaluations of the family brand name. This procedure may have decreased the accessibility of the extension information and reduced its impact on family brand evaluations.

Keller and Aaker (1992) examined both dilution and enhancement but found evidence only for enhancement. Further, enhancement effects were observed regardless of extension category. In their study, subjects were exposed to extension information and then evaluated the family brand, which may have led to high accessibility of extension information. Interestingly, dilution effects did not emerge in Keller and Aaker’s (1992) research. One possible explanation is that subjects might have discounted the negative information since they were told that unsuccessful extensions were discontinued.

In sum, while a review of prior research suggests that accessibility of the extension information may enhance the likelihood of feedback effects, none of the studies cited above actually measured or manipulated accessibility of the extension information. Thus, the role of accessibility in feedback effects remains untested.

Diagnosticity of Extension Information

The Effect of Fit on Diagnosticity. Previous research suggests that consumers’ evaluations of brand extensions vary systematically as a function of the fit between the family brand and the extension category (Park, Milberg, and Lawson 1991). Fit is a function of salient shared associations between the family brand and the extension product and has
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been conceptualized in several ways (Keller 1998). For instance, one stream of research (e.g., John, Loken, and Joiner 1998; Loken and John 1993) has examined it in the context of consistency of the extension with existing brand beliefs or extension typicality. Other common conceptualizations are based on product-related attributes or benefits (e.g., product category; Boush and Loken 1991) and non–product-related attributes or benefits (e.g., image; Park et al. 1991). In this research, we have used a product-based definition of fit. Specifically, we define fit in terms of product category similarity—the extent to which the extension product is perceived as similar to the current products of the family brand.

Past research (e.g., Skowronski and Carlson 1987) suggests that the greater the shared associations between two targets, the more diagnostic information about one is for making judgments about the other. In the brand extension context, this finding implies that as the shared associations between the family brand and the extension increase so does the diagnosticity of information about one (e.g., brand extension) for making judgments about the other (e.g., family brand name). That is, one may expect a positive relationship between extension category similarity and feedback effects. However, the results of the brand extensions literature have not been entirely consistent with this rationale.

In this research, we examine category similarity as a determinant of diagnosticity and explore the premise that high accessibility of extension information in some of the past studies may have left little room to observe the effects of diagnosticity. Therefore, an important goal of the current research is to understand the nature and extent of feedback effects from the brand extension to the family brand when information about the extension is not highly accessible.

The Effect of Information Valence on Diagnosticity. Another factor that may influence the diagnosticity of extension information is its valence. Past research on impression formation suggests that negative information is perceived to be more diagnostic than positive information and therefore gets more weight in the formation of overall evaluations (Ahlwalia, Burnkrant, and Unnava 2000; Herr et al. 1991). However, relatively little attention has been paid to understanding the asymmetries in the impact of positive versus negative extension information on family brand evaluations. In this research, we suggest that the valence of information interacts with category similarity to influence the diagnosticity of extension information. Next, we discuss the rationale for this interaction.

HYPOTHESES

Past research has found that negative information is more diagnostic than positive information in forming product judgments because negative information helps assign the target to a lower quality category more easily than positive information helps assign the target to a higher quality category (Herr et al. 1991). However, previous research has examined the diagnosticity of information in the domain of current product offerings of a company. Most brands are expected to perform well in manufacturing products that are close to their current product offerings. For example, even lower or mediocre quality brands are expected to perform at least as well as their past performance (i.e., sustain in the marketplace in the face of high product failure rates) when they introduce close extensions, which rely on their core competencies. Therefore, not only are high quality brands expected to perform well most of the time, so are low or mediocre quality brands. Consequently, positive information about a close extension is not very indicative of the family brand quality. However, negative information about a close extension clearly signals a low quality brand. Therefore,

H1: In the domain of close extensions, negative information is likely to be rated as more diagnostic than positive information.

However, most brands are expected to have a low level of ability in manufacturing and/or marketing a product that is “far” from its core capabilities. Consequently, far brand extensions are associated with a lower probability of success and higher risk than are close extensions (Aaker 1997). In other words, it is more difficult to successfully extend into a far (vs. close) category. As the difficulty of a successful behavior increases, its diagnosticity also increases. For example, Skowronski and Carlson (1987) found that success in a difficult ability-related task was considered to be more diagnostic of a person’s ability than failure in the same task. This reasoning suggests that successful far extensions are likely to indicate a high quality brand, while failure in this domain would be more ambiguous because both high and low quality brands could fail.\(^1\)

H2: In the domain of far extensions, positive information is likely to be rated as more diagnostic than negative information.

The more diagnostic a piece of information, the greater weight it is expected to receive in the formation of overall evaluations (Feldman and Lynch 1988). Therefore, if negative information is more diagnostic than positive information for close extensions, it follows that a failure would be harder to discount than a success in the domain of close extensions. Thus, a dilution effect is more likely than an enhancement effect with close extensions. In contrast, positive information is likely to be more diagnostic than negative information in the domain of far extensions, leading consumers to discount an unsuccessful extension performance more than a successful performance. Thus, an enhancement effect is more likely than a dilution effect in the domain of far extensions.

It is well known that most information processing is

\(^1\) Another way to motivate these hypotheses is on the basis of discrepancy by arguing that discrepant information is generally perceived as more diagnostic than consistent information. However, recent research has convincingly argued that despite the fact that discrepancy and diagnosticity are often correlated, discrepancy per se is not a determinant of diagnosticity (Skowronski and Carlson 1987). Therefore, we motivate our theorizing based on diagnosticity, rather than assuming that discrepancy leads to diagnosticity.
guided by the principle of cognitive economy. That is, people generally do not engage in effortful processing unless they are motivated to do so. For example, Wyer and Srull (1986) suggested that, in making a judgment, subjects first search for working memory. If such easily accessible information is sufficient for their judgment, they are less likely to engage in effortful search of long-term memory. Consistent with this premise, Feldman and Lynch (1988, p. 429) asserted that “the most accessible cognition sufficient to determine a response” would be used in judgments. Therefore, even an input of “modest diagnosticity” may be used if that input is highly accessible.

One factor that influences the accessibility of information is the temporal proximity between an input and a judgment. Specifically, recently activated cognitions are likely to be highly accessible and exert disproportionate impact on judgments, regardless of diagnosticity (Higgins, King, and Marin 1982). In the context of brand extensions, information about the extension will be highly accessible when consumers are asked to report their evaluation of the family brand immediately after reading the extension information. Under such conditions, a highly accessible negative (positive) extension is expected to lead to a dilution (enhancement) effect regardless of product category as observed by past studies in this area (e.g., Loken and John 1993; Milberg et al. 1997). This is because highly accessible information about a new extension is likely to be sufficient for making a judgment about the family brand. It is also possible that the accessibility of the information may influence its perceived diagnosticity (e.g., see Menon and Raghurib 2000). That is, consumers may perceive the extension information to be more diagnostic if it is highly accessible. In any case, extension information is likely to affect family brand evaluations, regardless of extension category, when it is highly accessible.

The information about the extension will not be highly accessible or dominant when consumers report their evaluation of the family brand, at a later point in time. In such a situation, extension information will be used in the brand evaluation based on its diagnosticity.

**H3:** When information about the extension is lower in accessibility, positive information about the extension is more likely to lead to an enhancement effect for far (vs. close) extensions and negative information about the extension is more likely to lead to a dilution effect for close (vs. far) extensions.

**H4:** When information about the extension is higher in accessibility, positive information about the extension is likely to lead to an enhancement effect, while negative information about the extension is likely to lead to a dilution effect for both far and close extensions.

### OVERVIEW OF THE STUDIES

Three studies were conducted to test the hypotheses. The first two studies, 1a and 1b, were designed to test Hypotheses 1 and 2, relating to the perceived diagnosticity of negative and positive information in far and close extension categories. The dependent measure in these studies was the perceived diagnosticity of the extension information for evaluating the family brand. While the first two studies focused solely on the diagnosticity part of the model, the third one (study 2) incorporated the accessibility aspect. This study was conducted to test Hypotheses 3 and 4, dealing with feedback effects under higher and lower accessibility conditions. Feedback (dilution and enhancement) was measured in terms of both family brand evaluations and beliefs.

### STUDIES 1a AND 1b

Since both studies tested Hypotheses 1 and 2 using the same methodology, we discuss their procedure together. The only difference in the two studies was the product categories for which the diagnosticity information was collected. Study 1a examined the diagnosticity of positive and negative information related to far and close brand extensions for an athletic shoes company. Study 1b collected similar data in the context of an electronic products company.

#### Pretests

Two pretests were conducted to identify extensions that were either high or low in their similarity to the products of an athletic shoe and an electronic products company. In the first pretest ($n = 21$), subjects rated a number of different products on their perceived similarity with an athletic shoe company and an electronic products company. Perceived product category similarity was measured by four seven-point scales anchored by “inconsistent/consistent,” “unrepresentative/representative,” “atypical/typical,” and “different/similar” (Loken and John 1993). Based on these ratings, running shoes were chosen as the close extension ($M = 6.77$) and briefcases as the far extension ($M = 2.05$) for an athletic shoe company ($t(20) = 18.01, p < .01$). For an electronic products company, TV sets were chosen as the close extension ($M = 6.29$), and vacuum cleaners as the far extension ($M = 3.25; t(20) = 8.32, p < .01$).

A second pretest ($n = 16$) assessed perceptions of manufacturing competency/skills of the parent companies in the proposed extensions. Subjects rated the extent to which they perceived the parent company (e.g., the electronics product company) as having the necessary skills and competence to manufacture the extension products (e.g., vacuum cleaner) on two seven-point Likert scales. Since these scales were highly correlated ($r’s > 0.80$), these two items were averaged. Subjects perceived an athletic shoe company as having high levels of competency in manufacturing running shoes ($M = 6.63$) and low levels of competency in manufacturing briefcases ($M = 2.59; t(15) = 11.55, p < .01$). An electronic products company was rated as having high levels of competency in manufacturing TV sets ($M = 6.00$) and low levels of competency in manufacturing vacuum cleaners ($M = 3.44; t(15) = 9.73, p < .01$).

A third pretest ($n = 34$) was conducted to identify the
attributes considered important (on a seven-point scale, very important/not at all important) in evaluating the extension categories included in this research. These attributes were then manipulated in the positive and negative scenarios used in studies 1a and 1b. Style and durability were identified as the most important attributes for evaluating running shoes and briefcases, while reliability emerged as the attribute that was rated as important for evaluating both TV sets and vacuum cleaners.

Subjects and Procedure

Eighty-six undergraduates in study 1a and 113 undergraduates in study 1b received partial course credit for participating in the experiments. Subjects were run in small groups and were randomly assigned to conditions in a 2 (extension category: close, far) × 2 (information valence: positive, negative) between-subjects design. The questionnaire contained a scenario describing the experience of a company with a new product extension. They completed the dependent measures at their own pace and were debriefed upon completion of the questionnaire.

Independent Variables

Extension Category. Subjects in the close extension condition learned that an athletic shoe (electronic products) company had introduced a new model of running shoes (a new line of TV sets). In the far condition, the extension dealt with a new line of briefcases for the athletic shoes company and a new line of vacuum cleaners for the electronics company.

Information Valence. Following past research (Keller and Aaker 1992), the positive or negative information was conveyed via scenarios. The positive (negative) information suggested that the new product was (un)successful in the market. For example, subjects read the following under the far extension condition in study 1a and 1b, respectively.

An athletic shoe company has decided to introduce briefcases. This new product was rated by consumer experts as very stylish and durable [below average in style and durability].

An electronic products company, manufacturing TVs, VCRs, etc., has decided to introduce a line of vacuum cleaners. Market tests showed that this line of vacuum cleaners scored better [worse] than its major competitors in reliability.

Dependent Variable

Perceived diagnosticity was assessed in a manner consistent with past research (Herr et al. 1991; Skowronski and Carlston 1987). After reading the scenario (positive close, positive far, negative close, or negative far), subjects assessed (on a nine-point scale anchored by extremely unlikely vs. extremely likely) the likelihood of a low quality company facing the situation described in the scenario. Then they provided the likelihood of a high quality company facing the same situation. Low quality was defined as average or low quality to ensure that mutually exclusive and exhaustive categories would be employed. These two likelihood estimates were used to compute the diagnosticity scores in each cell. For instance, the diagnosticity of negative information for a close extension was computed by dividing the likelihood of a low quality company facing the negative-close scenario by the sum of the same likelihood and the likelihood of a high quality company facing the negative-close scenario. Consider a numerical example. If the likelihood rating for a low quality company facing the negative-close scenario was 7 and the likelihood rating for a high quality company facing the same scenario was 3, then the diagnosticity of negative information for the close extension would be computed as $7/(7 + 3) = .7$, which is fairly high for a diagnosticity ratio (typical range is .60 to .70). The diagnosticity ratios for the other cells were computed in a similar manner using the two likelihood estimates.

Results

The data were analyzed using a 2 (extension category: close vs. far) × 2 (information valence: positive vs. negative) between-subjects ANOVA. It was expected that, consistent with past research on the negativity effect, negative (vs. positive) information would be perceived as more diagnostic in the domain of close extensions (Hypothesis 1); however, positivity effect (positive perceived as more diagnostic than negative) would be obtained for far extensions (Hypothesis 2). This pattern of results calls for an interaction between extension category and information valence.

Study 1a: Athletic Shoe Company. As expected, the ANOVA on the diagnosticity index revealed a significant interaction between information valence and extension category ($F(1, 82) = 26.07, p < .001$). Consistent with Hypothesis 1, the simple-effects test revealed that negative (vs. positive) information was rated as more diagnostic for close extensions ($M's = 0.66$ vs. 0.60; $F(1, 82) = 7.81, p < .01$). In contrast, as predicted by Hypothesis 2, positive (vs. negative) information was rated as more diagnostic for far extensions ($M's = 0.69$ vs. 0.60; $F(1, 82) = 19.42, p < .001$).

Study 1b: Electronic Products Company. Similar findings were obtained with the electronic products company. Specifically, an ANOVA on the diagnosticity index yielded a significant information valence × extension category interaction ($F(1, 109) = 20.11, p < .001$). As expected, the simple-effects test indicated that negative (vs. positive) information was rated as more diagnostic for close extensions ($M's = 0.65$ vs. 0.59; $F(1, 109) = 6.66, p < .05$), while subjects rated positive (vs. negative) information as more diagnostic for far extensions ($M's = 0.67$ vs. 0.58; $F(1, 109) = 14.22, p < .001$).
Discussion

We examined the diagnosticity of negative information in the context of brand extensions and found that negative information was perceived as diagnostic only for close extensions. However, our findings revealed a positivity effect when the information is about a far category extension. These findings suggest that dilution effects are more likely with close extensions, and enhancement effects are more likely to emerge with far extensions. However, consistent with Hypothesis 3, this effect is expected only when the extension information is not highly accessible. In the presence of highly accessible extension information, dilution (enhancement) is expected with negative (positive) information across product categories (Hypothesis 4). Study 2 was conducted to test these hypotheses.

STUDY 2

Pretests and Stimuli

Target Brand and Extension Categories. Since study 1 revealed similar effects with both product categories, only one (electronic products) was examined in this study. The electronic products category was selected due to the existence of several well-known and moderately evaluated brand names in the category. Sharp was selected as the target brand on the basis of a pretest ($n = 38$) indicating that subjects were very familiar with the brand ($M = 5.73/7$) and rated it as moderately positive ($M = 4.88/7$). It was important to choose a moderately evaluated brand name for demonstrating dilution and enhancement effects in the same study, without the potential of ceiling effects. Further, subjects rated TV sets as having a very good fit ($M = 6.40/7$) and vacuum cleaners as having a very poor fit ($M = 1.83/7$, $t(37) = 16.54$, $p < .01$) with Sharp’s current products.

Target Messages. Subjects were provided with either positive or negative attribute information about the new brand extension in the form of a Consumer Reports table. Each table contained ratings of Sharp and three other brands (JVC, Sony, and Toshiba for TV sets; Hoover, Dirt Devil, and Kenmore for vacuum cleaners) on two attributes (reliability and ease of use). Reliability was chosen as the target attribute because a pretest indicated that it is an important attribute for both TV sets and vacuum cleaners.Ease of use was included to avoid unnecessary attention on the target attribute and to increase the believability of the information. The comparison brands were chosen on the basis of pretests and actual Consumer Reports ratings indicating that Sony and Hoover were perceived to be the most favorable brands in their respective categories, while the remaining brands, including Sharp, were rated as moderate.

In the positive-information condition, the new extension introduced by Sharp was portrayed as being clearly superior to the moderate brands and as having the same level of reliability as the high quality brand (Sony or Hoover). In the negative-information condition, the extension was portrayed as clearly inferior to all the competing brands in reliability. All the moderate brands (including Sharp) were assigned similar ratings on ease of use, slightly lower than those of the leading brands (Sony and Hoover).

The Consumer Reports ratings provided to the subjects in the study were carefully calibrated on the basis of several pretests to ensure that the positive and negative information did not differ in terms of their discrepancy with the Sharp brand name. In other words, all four conditions (negative-far, negative-close, positive-far, positive-close) were equally discrepant with Sharp’s image. This was done to rule out a potential discrepancy-based alternative explanation. Specifically, positive (vs. negative) information about the vacuum cleaner and negative (vs. positive) information about TV sets could be perceived as more discrepant with Sharp’s image.

Thirty-nine subjects participated in the final pretest and were randomly assigned to conditions in a 2 (extension category: close or far) × 2 (information valence: positive or negative) between-subjects design. Subjects were provided with either positive or negative information about a new TV set (close extension) or vacuum cleaner (far extension) and were asked to indicate the extent to which the performance of the extension was discrepant with Sharp’s image on the following scales: “extremely inconsistent” and “extremely consistent,” “extremely unrepresentative” and “extremely representative,” “extremely atypical” and “extremely typical,” “extremely different” and “extremely similar.” These items were averaged to form a discrepancy index ($\alpha = .90$) and the data were analyzed using a 2 (extension category) × 2 (information valence) between-subjects ANOVA. The analysis indicated no significant effects ($F$’s <1), suggesting that both positive and negative information were equally discrepant with Sharp’s image for both close ($M’s = 4.39$ vs. 4.53) and far ($M’s = 4.55$ vs. 4.57) extensions.

Accessibility. Accessibility of extension information was manipulated by varying the intervening material between the extension information and family brand evaluations. In the higher accessibility condition, subjects indicated their beliefs and evaluations of the family brand name (Sharp) immediately after exposure to the extension information and their evaluation of the extension. Under the lower accessibility condition, intervening tasks between the subjects’ exposure to the extension information and their evaluation of the family brand were designed to lower the accessibility of the extension information. The first, a filler task (two personality scales, 44 items), was aimed at clearing the short-term memory of the subjects and increasing the amount of time between the two judgments (Feldman and Lynch 1988). The second, a brand-evaluation task (beliefs about and evaluations of several brands), helped in providing intervening material in the same content domain. Past research suggests that providing intervening material in the same (vs. different) content domain as the initial cognition decreases the initial cognition’s accessibility (Feldman and Lynch 1988). It is noteworthy that while these tasks were
expected to lower the accessibility of extension information, they were not likely to render it inaccessible.

A pretest was run to validate the accessibility manipulation (n = 120) in which the higher and lower accessibility conditions were run for the close extension (TV sets). The procedure used in the pretest replicated the main experiment, with the exception that Sharp belief and evaluation questions were substituted with an open-ended cognitive-response task. In other words, at specifically the same spot where subjects in the main study would express their evaluation of the Sharp brand name, in this pretest, they expressed “any thoughts that came to their mind” about the Sharp brand name. Following past research (Higgins et al. 1982), accessibility of extension information was measured by the frequency and primacy of extension-related cognitions in the subjects’ thought listing.

Additionally, we wanted to test whether rating the extension had an additional impact on accessibility of extension-related cognitions beyond the effect of extension information. Therefore, two higher accessibility conditions were examined. In one condition, subjects provided their thoughts immediately after exposure to the Consumer Reports information. In the second, they elicited thoughts after exposure to the Consumer Reports information and evaluating the extension.

Two independent judges identified the number of extension-related thoughts and their primacy (whether it was mentioned in the first two thoughts) in the thought-listing task. The number and primacy of extension-related thoughts were analyzed using a 2 (information valence) × 3 (accessibility) between-subjects design. An ANOVA on the number of extension-related thoughts revealed only a main effect of accessibility (F(2, 121) = 4.91, p < .01). Planned contrasts indicated that subjects generated more thoughts about the extension under the two higher accessibility conditions as compared with the lower accessibility condition (M’s = 0.84 vs. 0.76 vs. 0.43; p’s < .05). No difference was found between the two higher accessibility conditions (F < 1). An ANOVA on the arcsine transformations of the percentage of subjects indicating an extension-related thought in the first two thoughts revealed only a main effect of accessibility (F(2, 121) = 5.46, p < .01). Planned contrasts indicated that a higher percentage of subjects generated extension-related thoughts earlier under the higher accessibility conditions as compared with the lower accessibility condition (M’s = 58 percent vs. 55 percent vs. 26 percent; p’s < .01). No difference was found between the two higher accessibility conditions (F < 1). Therefore, the data supported the validity of the accessibility manipulation. The experiment utilizing this manipulation is described next.

**Subjects and Procedure**

Two hundred and seven undergraduates received partial course credit for participating in this experiment. They were randomly assigned to conditions in a 2 (accessibility: higher, lower) × 2 (extension category: close, far) × 2 (information valence: positive, negative) between-subjects design with a control group. Subjects were told that they would participate in a series of short, unrelated studies and were given a packet that contained several questionnaires. The introduction for the first questionnaire informed the subjects that it dealt with how consumers decide to buy new products. They were provided with positive or negative information in the form of a Consumer Reports article about the target brand’s new product line (far or close extension) and asked to complete dependent measures. In the lower accessibility conditions these included beliefs and evaluation of the brand extension as well as attribute importance ratings. In the higher accessibility condition, subjects were also asked to provide their beliefs and evaluation of the Sharp brand name immediately after answering the questions relating to the extension. Subjects in the control group were not provided with any information but simply indicated their beliefs and evaluation of the target brand. The second questionnaire consisted of a filler task, described earlier. The third questionnaire dealt with “students’ perceptions of different brand names.” Subjects were asked to evaluate a series of brand names, one of which, in the lower accessibility conditions, was Sharp. Finally, subjects were given a questionnaire that included manipulation and confounding check questions as well as a suspicion probe. Their responses to the suspicion probe suggested that subjects did not suspect that the new product-evaluation task was related to the brand-evaluation task administered in the end. In other words, they seemed to treat the tasks as independent.

**Dependent Variables**

All dependent variables were measured on seven-point scales anchored by 1 and 7.

**Manipulation Check.** Subjects rated the extent to which the information portrayed the new product as having “few/many positive attributes,” “many/few negative attributes,” and “inferior/superior to competing brands.” These items were averaged to form an information valence index (α = .88).

**Beliefs and Evaluations.** We used both beliefs and evaluations since enhancement and dilution have been measured in terms of beliefs (Loken and John 1993; Milberg et al. 1997) and evaluations (Keller and Aaker 1992; Romeo 1991) in past research. Subjects rated the extent to which Sharp products are reliable on three scales anchored by “strongly disagree” and “strongly agree,” “extremely unlikely” and “extremely likely,” “not at all probable” and “very probable.” These belief measures were averaged to form a belief index (α = .95). Brand evaluations were measured via three scales anchored by “very unfavorable” and
“very favorable,” “very negative” and “very positive,” and “very bad” and “very good.” These items were averaged to form an evaluation index ($\alpha = .95$).

Results

Manipulation Check. A 2 (accessibility) \times 2 (extension category) \times 2 (information valence) between-subject ANOVA on the information valence index revealed only a main effect of information valence such that subjects under the positive (vs. negative) information condition indicated that the information portrayed the brand as having many positive and few negative attributes and as superior to competing brands ($M$’s = 4.92 vs. 3.70; $F(1, 177) = 52.04$, $p < .001$).

Beliefs. The hypotheses were tested by contrasting experimental groups with the control group consistent with the approach recommended in Winer (1971). Specifically, the residual error term from the ANOVA (with a single control group) model was used for the planned contrasts. The same pattern of data and same level of significance were obtained with both beliefs and evaluations. Therefore, in the following paragraphs we will discuss only the beliefs data. The results are presented in Table 1.

Under lower accessibility, beliefs about Sharp’s reliability were significantly lower than the control group in response to the negative information about a close extension ($M = 4.09$ vs. 4.73; $t = 2.14$, $p < .05$), while the beliefs in response to the positive information about a close extension were not significantly different from the control ($M = 5.18$ vs. 4.73, NS). That is, when information about a close extension was not highly accessible, negative information led to dilution, while positive information did not lead to enhancement. In the context of a far extension, negative information did not dilute family brand beliefs ($M = 4.60$ vs. 4.73, NS), while positive information led to an enhancement effect ($M = 5.56$ vs. 4.73; $t = -2.80$, $p < .05$). These findings are consistent with Hypothesis 3.

In contrast to the lower accessibility conditions, under higher accessibility, beliefs about Sharp’s reliability were enhanced (compared to the control, $M = 4.73$) in response to positive information ($M_{close} = 5.35$, $t = -2.05$; $M_{far} = 5.52$, $t = -2.64$; $p’s < .05$), and were diluted in response to negative information ($M_{close} = 3.76$, $t = 3.21$; $M_{far} = 3.90$, $t = 2.77$; $p’s < .01$) regardless of the extension category. These findings are consistent with Hypothesis 4.

Discussion

The results showed that when brand evaluations were assessed immediately after exposure to the extension information, dilution and enhancement effects were significant for both far and close categories. However, when accessibility of extension information was not very high, consumers appeared to be influenced to a greater extent by negative (vs. positive) information about the close extension and positive (vs. negative) information about the far extension.

TABLE 1

<table>
<thead>
<tr>
<th></th>
<th>Beliefs</th>
<th></th>
<th>Evaluations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>Dunnett $t(2, 198)$</td>
<td>Means</td>
<td>Dunnett $t(2, 198)$</td>
</tr>
<tr>
<td>Higher accessibility:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative-close</td>
<td>3.76</td>
<td>3.21**</td>
<td>3.94</td>
<td>3.30**</td>
</tr>
<tr>
<td>Negative-far</td>
<td>3.90</td>
<td>2.77**</td>
<td>4.10</td>
<td>2.73**</td>
</tr>
<tr>
<td>Positive-close</td>
<td>5.35</td>
<td>-2.05*</td>
<td>5.50</td>
<td>-2.55*</td>
</tr>
<tr>
<td>Positive-far</td>
<td>5.52</td>
<td>-2.64**</td>
<td>5.41</td>
<td>-2.24*</td>
</tr>
<tr>
<td>Lower accessibility:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative-close</td>
<td>4.09</td>
<td>2.14*</td>
<td>4.23</td>
<td>2.24*</td>
</tr>
<tr>
<td>Negative-far</td>
<td>4.60</td>
<td>.44</td>
<td>4.71</td>
<td>.42</td>
</tr>
<tr>
<td>Positive-close</td>
<td>5.18</td>
<td>-1.52</td>
<td>5.22</td>
<td>-1.53</td>
</tr>
<tr>
<td>Positive-far</td>
<td>5.56</td>
<td>-2.80**</td>
<td>5.46</td>
<td>-2.46*</td>
</tr>
<tr>
<td>Control group</td>
<td>4.73</td>
<td>4.82 (.83)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05.

These findings indicate that if consumers make their judgments when the accessibility of this information is reduced, then the perceived diagnosticity of the extension information is likely to determine its impact on the family brand evaluation. In contrast, when the extension information is highly accessible, feedback effects are likely regardless of extension category.

Data from this study indicate that consumers may not update their evaluation of the family brand immediately upon exposure to the extension information unless they are specifically asked to do so. If spontaneous updating occurred, as implied by the higher accessibility conditions, the pattern of results would be similar under the lower and higher accessibility conditions. This is because once a cognition has been formed (i.e., revised brand evaluation) it should be retrieved (vs. computed) in response to the brand evaluation question asked at a later point in the lower accessibility condition (Feldman and Lynch 1988). The fact that we obtained different effects of category fit and valence of information in the lower as compared to higher accessibility condition indicates that family brand evaluations are not likely to be updated spontaneously upon exposure to the brand extension information, unless subjects are specifically asked to do so. Consumers may update their brand evaluation at a later point, as needed (e.g., reevaluate the brand while making another purchase). At this point, the brand extension information is not likely to be highly accessible, allowing its perceived diagnosticity to affect family brand evaluation. However, if accessibility of information is very low at the time of brand evaluation, it is not likely to have any impact on judgments.

From a managerial perspective, our findings in the higher accessibility negative-far cell are disturbing since they suggest dilution even when the negative information was not diagnostic. We argue that this effect was driven by the temporary salience of the negative information; it is important, however, to understand whether it is likely to be transitory.
or to hold over time. We collected additional data in a delay setting to examine this issue.

Subjects \((n = 49)\) participated in two ostensibly unrelated studies. In the Time 1 study, the procedure and materials were similar to study 2. Two conditions were run—higher and lower accessibility for the negative far extension (i.e., Sharp vacuum cleaner). Two days later, these subjects as well as 20 others (control condition) participated in a second, ostensibly unrelated study conducted to examine response differences in computer versus paper-and-pencil surveys. Subjects were told they were participating in the paper-and-pencil condition and asked to fill out a questionnaire composed of a number of questions dealing with a variety of issues and products. Embedded in this questionnaire were the target questions dealing with Sharp.

Beliefs and evaluations yielded similar patterns; therefore, we only discuss the beliefs data. In Time 1, consistent with study 2 results, brand beliefs were dilated in the higher accessibility condition \((M = 3.83, M_{\text{control}} = 4.78; t(66) = 2.88, p < .01)\), while no dilution effects emerged in the lower accessibility condition \((M = 4.82, M_{\text{control}} = 4.78; \text{NS})\). It is important to note that the dilution effect did not hold over time. At Time 2, beliefs of the higher accessibility subjects were not different from those of the control group \((M = 4.51, M_{\text{control}} = 4.78; \text{NS})\). These findings suggest that when the extension information is not diagnostic, a dilution effect driven by temporary salience is likely to be transitory.

**GENERAL DISCUSSION**

This research provides a framework for understanding feedback effects from the extension to the family brand and makes predictions relating to conditions under which feedback effects are likely to emerge. In doing so, our framework is able to explain some of the mixed findings in previous research and makes a contribution to the literature by reconciling the differences. Moreover, we examine enhancement and dilution simultaneously within one framework and demonstrate asymmetric effects for positive versus negative extension information.

We identify accessibility of extension information as a factor that moderates the effect of extension on the family brand name. Under higher accessibility, we found that dilution and enhancement effects emerged regardless of category similarity. Under lower accessibility, dilution and enhancement effects were observed in response to more diagnostic information. In particular, the finding that dilution effects can be observed even with far extensions is interesting from both theoretical and managerial perspectives.

Most important, our framework incorporates the role of perceived diagnosticity of the extension information in determining feedback effects on the family brand evaluation. Extending prior research, we suggest that category similarity and the valence of extension information jointly determine diagnosticity of extension information. Further, our predictions and findings relating to feedback effects of positive extension information suggest that positive information about a far extension may enhance family brand evaluations.

Since the effects of positive extension information in the far category have received very limited attention in the past literature, our research provides a step in this direction.

Another important issue relates to the correspondence between accessibility and diagnosticity scenarios used in our research and real-world decision situations. Under the higher accessibility scenario, consumers update their brand evaluation immediately upon exposure to the extension information. As discussed earlier, our research suggests that brand evaluations are not updated on-line, and therefore this scenario is likely to have limited generalizability in real-world settings. It could, however, correspond to real-world situations in which the consumer is exposed to the extension information just before making a purchase in which s/he considers the family brand. For example, the extension information could be available in the sales setting via point-of-purchase displays, ads, and so on.

The second scenario, or lower accessibility, we believe is more representative of the real-world decision environment. In this situation, consumers may be exposed to the extension information at some point in time, but do not feel compelled to integrate it into their family brand evaluations. At a later point in time, when they are motivated to form the family brand evaluation (e.g., while making a purchase), they may consider the extension information, in addition to other inputs such as past experience. In this situation, our research indicates that the relative diagnosticity of the extension information will determine the likelihood of its use. Specifically, negative extension information is likely to be used as an input only when it relates to a close category and positive extension information when it relates to a far extension category.

Our findings suggest managerial strategies for increasing/diminishing the feedback effects of an extension on the family brand. The finding that brand evaluations are not updated online seems to signal to marketers the role of accessibility and diagnosticity of the extension information in determining its impact on the brand evaluation. For example, the impact of the positive extension information can be enhanced by making it more accessible in the decision situation (e.g., providing information about extension on the packages of other products of the same family brand name). Similarly, diagnosticity of the extension information can be influenced by communication strategies that enhance/diminish the relevance of attribute beliefs in evaluating the family brand. For example, the diagnosticity of a very specific attribute (e.g., ability of the vacuum’s filter to keep dust out of the air) should be very low in evaluating a family brand name. The diagnosticity of such an attribute could be increased via framing it within the context of a relevant global belief for the brand (e.g., superior engineering).

**Scope within Branding Research**

While our research focuses on the feedback effects of brand extensions, it would be desirable to examine its implications and scope within the general area of brand equity. Keller’s (1998) integrative and comprehensive framework
in this area suggests that the effects of an extension on consumer brand knowledge will depend on the extent to which product performance in one category is seen as predictive of product performance for brand in other categories (i.e., high fit). Our research not only supported Keller’s (1998) conceptualization, but also extended it by demonstrating an interaction between fit and valence in determining the diagnosticity of the extension information.

Fit can be operationalized via similarity between the family brand and the extension on the basis of product-related attributes or non–product related attributes (such as image) (Keller 1998). We used the former operationalization in our research. However, consistent with Keller (1998), we expect our effects to generalize to other bases of fit, such as image or prestige. This is because the different bases of fit represent the same underlying construct, that is, similarity between the family brand and the extension, which is likely to influence the perceived diagnosticity of the extension information for the family brand evaluation. Another interesting issue is whether the type of positive/negative information interacts with fit. We suggest that since both fit and the type of positive/negative information are likely to influence the relative diagnosticity of the extension information, their combined influence is more likely to be additive. That is, we do not expect an interaction between fit and the type of negative/positive information. For example, one typology for categorizing negative/positive information relates to its extremity (e.g., Herr et al. 1991). Extremely negative/positive information is considered to be more diagnostic than moderately negative/positive information. Therefore, extremely negative extension information is likely to have greater impact on brand evaluations than moderately negative extension information for each level of fit. If, however, the type of information about the extension (e.g., functional information) is different from the basis of fit (e.g., image) then the information may not be perceived as diagnostic to evaluate the family brand name.

Our implications, however, are limited by other factors highlighted in Keller’s (1998) framework that our research did not examine. For example, we provided unambiguous information about product performance. However, in future research it will be important to examine how the ambiguity of evidence interacts with consumer expectations in the context of brand extensions. Also, we provided extension information on a global attribute (reliability) that is likely to be easily interpretable at the brand performance level, and hence diagnostic for the brand evaluation. However, if the extension evidence is very specific in nature (e.g., ability of filter to keep dust out of the air; see, e.g., Broniarczyk and Alba 1994), it is less likely to be compelling or interpretable at the brand performance level, lowering its diagnosticity and its impact on the family brand evaluation. Therefore, our research is limited in its generalizability to the extent that inputs in real-world decisions include specific attribute beliefs.

Additionally, strong brand-attribute associations are less likely to be influenced by discrepant information than are weak brand-attribute associations (Keller 1998). If the reliability information were provided about a brand strongly associated with reliability (Honda), it is likely that dilution effects may not have emerged. Future research is needed to address how the strength of brand associations moderates the effects of extensions on family brand evaluations.

Similarly, strong consumer-brand associations (e.g., brand commitment, brand involvement) may diminish the feedback effects of negative extension information. Committed individuals are likely to engage in biased assimilation (e.g., Ahluwalia et al. 2000) of the extension information, seeking out information that is preference consistent, attempting to refute preference inconsistent information. Future research may explore how consumers’ commitment to brands influences the process by which dilution and enhancement effects occur.

References


