

**"DETERMINING THE ORDER AND DIRECTION
OF MULTIPLE BRAND EXTENSIONS"**

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ABSTRACT

The process of managing a successful brand involves exercising the brand's equity to profitable ends. Brand extension provides a means of leveraging such equity. One means of arriving at *distant* brand extensions is through the introduction of intermediate brand extensions (Keller & Aaker 1992). Given a set of potential extensions, a brand manager may wish to determine the *order* in which to introduce these extensions. In addition, it may be necessary to take into account the *direction* in which these extensions will be undertaken. Two experiments provide evidence for the importance of considering order and direction of extension. Recent categorization theory provides the conceptual background for the study. Thus, brands are taken to be categories and extensions are evaluated in terms of the coherence of the extension product(s) with the brand category. Direction of extensions is arrived at by locating a brand in a multidimensional product/brand space. Results show that undertaking extensions in a particular order can allow distant extensions to be perceived as coherent and that following a consistent direction in extension allows for greater coherence and purchase likelihood for the target extension.

Determining the Order and Direction of Multiple Brand Extensions

The process of managing a successful brand involves exercising the brand's equity to profitable ends. A brand's equity is often exploited (and potentially reinforced) through brand extension, which involves the application of an existing brand name to products that are new to the brand. Some recent brand extensions include Sanyo clothing, Nintendo breakfast cereal, and Panasonic bicycles. Frequently brands are extended to several products. In going from single extensions to multiple extensions, the problem of deciding on the order of extension takes on importance. Given a set of potential extensions, how should a brand manager decide on the order of introduction of these extensions so as to maximize the possibility of consumer acceptance of the extensions? The order of extension should depend on the distance and direction of the extensions from the brand, and the desired direction in which extensions are to be executed in the future. The purpose of the studies reported in this paper is to explore the following issues: (1) does the *order* in which intermediate extensions are made affect consumer reactions to the final extension? (2) How is direction of extension to be realized? And, (3) does the *consistency of direction* of multiple extensions affect consumer reactions to the target extension?

Deservedly, the area of brand extension has begun to attract considerable academic attention. Research in brand extension has demonstrated a positive relationship between the perceived "fit" of extension products with existing brand concepts and consumers' acceptance and evaluation of such extensions (Aaker and Keller 1990; Boush and Loken 1991; Bridges 1989; Chakravarti, MacInnis and Nakamoto 1990; Keller and Aaker 1992; Minnesota Consumer Behavior Seminar 1987; Park, Milberg and Lawson 1991). Generally, this research shows that extension products that share product features, usage situations or product/brand concepts (e.g. high status) with existing products or with the brand, are regarded by consumers as good fits. Evaluations of such extensions are generally higher than for products that are poor fits. This finding may suggest that brand extension ought to be limited to high fit products. However, due

to market opportunities or long term plans for a shift in product mix, a firm may wish to extend a brand to what may currently be a "low fit" product. In such cases, one option may be to gradually extend the brand to the target product by introducing intermediate extensions that act as "stepping stones" (Keller and Aaker 1992). In their study of intermediate extensions, Keller and Aaker (1992) found that this strategy may compensate for the lack of initial fit and allow target extensions to be evaluated more positively. The strategy of introducing multiple extensions assumes that the *order* in which intermediate extensions ought to be introduced is known a priori.

Intuitively, the order of introduction of extensions should be determined by the distance of these extensions from the current meaning of the brand. That is, close extensions should be introduced first, followed by more distant ones. Framing the issue of brand extension in terms of "close" , "intermediate", or "distant" extensions implies the use of a distance metric. Such a metric may be defined in terms of similarity, coherence, or some other basis of perceived match. One argument, stemming from similarity, is that fit is based on the common features between existing products and extension products (Keller and Aaker 1992; Minnesota Consumer Behavior Seminar 1987). An implication of the feature similarity approach is that fit is inherent in the features of the products. An extension is either a good fit or a poor fit based on the number of features that it shares with the existing products of the brand. An alternative view is that fit is a perception that may be altered without changing product features. In this sense, fit is a global measure of "coherence" of the extension product with the brand category. An objective of the studies reported here is to examine this latter notion of fit to determine if it may be possible to alter perceptions of coherence without changing the features of either existing or extension products.

The notion of distance of extension also raises the possibility that extensions may occur in multiple *directions*. Just as distance of extension refers to the inverse of perceived fit, the direction of extension refers to orientation in a spatial representation (based on perceptions of fit) of the brand and potential extensions. If it is possible to extend a brand in several directions,

multiple extensions may have to satisfy a direction criterion. That is, in addition to being executed in increasing order of distance, they may have to be executed in a consistent direction so as to allow a perception of fit.

The remainder of this paper provides a test of hypotheses concerning the order and direction of extension, that draws on categorization research as a conceptual framework. In the next section the theoretical background is discussed and the hypotheses formulated. Two experiments designed to test these hypotheses are described. The first experiment tests the effects of ordered versus nonordered brand extensions on consumer reactions. The order of extensions is established on the basis of the perceived coherence of extensions within the brand name. The second experiment introduces the concept of direction of extension and tests the effects of directional consistency of multiple extensions on consumer reactions.

CONCEPTUAL BACKGROUND

Brand extension research has largely been informed by categorization theory. A brand can be conceptualized as a category composed of one or several products (Boush and Loken 1991; Bridges 1989; Park, Milberg and Lawson 1991). The brand name acts as the category label and as such carries the meaning and affect associated with the category. In this vein, the problem of brand extension can be viewed as the attempt of a brand category to expand its membership to include a new product member.

Categories have been interpreted as collections of objects that are made coherent by *theories* which consumers supply (Bridges 1989; Murphy and Medin 1985; Park, Milberg and Lawson 1991). These theories provide coherence to the brand categories by "making sense" of the collection of products under the brand name. Extensions of the brand category are evaluated by the criteria of coherence provided by the *theories* of the brand. For example, the various products under a brand name such as Yamaha (motorcycles, pianos, audio components) may

"hang together" because Yamaha is understood in terms of associations such as "Yamaha is a high tech brand", "Yamaha is a Japanese brand", "Yamaha is a quality brand", and so on. Potential extensions of the Yamaha brand are likely to be evaluated for coherence within this set of associations. Lack of coherence will be reflected in lack of "fit" and poor evaluations.

Chaining and Ordered Extensions

Insight for brand extension may be gained from the study of extension of semantic categories. Lakoff (1987a) has proposed an account of categories as *Idealized Cognitive Models* that closely parallels the notion of categories based on *theories* proposed by Medin and his colleagues (Lakoff 1987b; Medin 1989; Medin and Wattenmaker 1987; Murphy and Medin 1985). In addition to treating categories as theories, Lakoff's proposal contains a category extension mechanism called chaining. Here a central member of a category is linked to another member that is, in turn, linked in some fashion to a third member, and so on. Thus, object A in a category may be seen to be related or chained to object B (based on rationalizations provided by the consumer's theory of the category). Object B may similarly be linked to object C; and object C may be so linked to object D. Together these objects form a coherent category, even though objects A and D may have little in common (Austin 1961; Wittgenstein 1953). For example, if we think of the senses of a word as being members of a category then the expressions *healthy body*, *healthy complexion*, and *healthy exercise* use the term healthy in very different ways, yet they form a coherent category that is codified in the language as the label HEALTHY (Austin 1961; Lakoff 1987a).

Based on the chaining mechanism, it can be speculated that the category coherence may be greater when the component objects form a chain than if they do not. If a collection of eclectic objects cannot be rationalized as a chain, it may not be perceived as a coherent category. The extension D in the example above may be perceived to be coherent only because it is preceded by a chain that is perceived as coherent. Thus, objects may be perceived to be coherent

members of a category by virtue of what preceded them in the category formation (Lakoff 1987a).

Linguistic categories are extended (or are not) depending on the speaker's judgment of the coherence of the extension. For example, the extension of the category VIRUS to include some computer programs is an extension that may be sanctioned by the native speakers of a language based on the coherence of the extension with the original connotation of the term. Similarly, in a brand extension setting the extension is executed by the firm. However, success of the extension may depend on consumers' judgment of the coherence of the extension. The consumer may or may not find the extension coherent, based on the existing connotation of the brand name to him/her. On the basis of the chaining principle it seems reasonable to expect that brand extensions which follow an order of increasing distance (or *ordered* extension) would be more conducive to chaining. This may allow the final extension to be perceived as coherent within the category. On the other hand, if extensions are carried out without regard to order, the target extension may not be perceived as coherent. While in either case the extension will be perceived as less coherent as the distance from the brand increases, the drop in coherence is likely to be lower when the extensions are ordered.

H1a: The decrease in coherence due to distance will not be as large for the target extension arrived at through *ordered* brand extension (chaining) as it will be for the target extension in non-ordered brand extension.

Models of the categorization process have suggested that when an object clearly is a category member or clearly is not one, processing is rapid; otherwise more elaborate processing may be undertaken (Boush and Loken 1991; Smith, Shoben, and Rips 1974). This finding may be interpreted as meaning that in the categorization process, objects are compared against pre-existing theories. Objects that are clearly members (nonmembers) of a category are immediately classified (not classified). However, objects that are not clearly classifiable require

rationalization to treat them as members .¹ The extra step of rationalization may make the processes of category judgment and coherence evaluation slower. Thus, an inverted U-shaped relationship may exist between the extent of coherence within the brand category and the speed of category judgment and coherence evaluation. It would be expected that an extension perceived as moderately atypical of the brand takes longer to classify than an extension that is totally atypical. Under Hypotheses H1a, it is expected that a target extension arrived at through ordered intermediate extensions will be perceived as somewhat coherent. A target extension arrived at through non-ordered intermediate extensions is likely to be perceived as incoherent in the brand category. Thus, it should take longer to evaluate the coherence of an extension arrived at through ordered intermediate extensions because it is more coherent than one arrived at through nonordered extension. Thus, to support H1a, the following hypothesis is proposed.

H1b: Target extensions arrived at through ordered extension will take longer to evaluate for coherence than will extensions arrived at through nonordered extension.

The coherence of a brand's meaning provides it with additional strength in that it is easier to establish its position and easier for consumers to identify the brand's meaning than for a brand that lacks coherence (Park, Jaworski and MacInnis 1986). These factors, it is suggested, contribute to the success of a brand. Thus, it is hypothesized that a coherent brand should lead to greater likelihood of purchase for the extension product than an incoherent one. Hypothesis H1a suggested that the distance of the target extension would have a negative effect on the perceived coherence of the brand. Thus, it is hypothesized that while distant extensions will have a lower purchase likelihood, the decrease in purchase likelihood may not be as large for target extensions that are preceded by ordered extensions.

H2: The decrease in purchase likelihood due to distance will not be as large for the target extension arrived at through *ordered* brand extension as it will for the target extension in non-ordered brand extension.

Keller and Aaker (1992) found that brands are particularly resilient to extension failures as well as to the introduction of distant (defined in terms of features) extensions. In other words, consumers' attitudes toward the brand were not damaged by failures of extensions or by the introduction of distant extensions. However, distant extensions in their study remained within the same product category. More distant extensions may yield different results. It may be that by increasing the distance of extensions beyond any possible shared features, the only possible link between the extension and the brand on which consumers can build is abstract rationalizations. Other findings suggest that extension failures that are distant from the existing products may be less likely to damage and dilute the brand's equity (Roedder-John and Loken 1990). Thus, the evidence thus far suggests that "distant" extensions may not be particularly harmful to the brand. However, these studies may not have found effects of incoherence because the distant extensions they used may not have been distant enough. Attitude toward a brand may, in part, be a function of how coherent the brand is perceived to be, especially for very distant extensions, where there may be no shared features. A brand that is perceived to be coherent ought to be evaluated more highly than a brand that is not. As H1a predicts, ordered extensions are expected to be perceived as more coherent. It is expected that nonordered intermediate extensions will create an incoherent brand category and harm attitude toward the brand.

H3: Ordered extension will lead to higher attitude toward the brand than will nonordered extensions.

EXPERIMENT 1

Method

Pretest.

A pretest was conducted in order to determine the distance of potential extensions from the brands used in the experiment. The five brands, Adidas, Betty Crocker, Colgate, Honda, and Sony were chosen (1) to represent a wide variety of product categories, (2) to be familiar to the subject population, and (3) such that they were not commonized (where a brand name becomes a common noun) as for example, Kleenex, Vaseline, or Aspirin. It was expected that the use of real brands would allow subjects' well theories about these brands to be used in their evaluation of coherence.

Forty four subjects, drawn from the same population as subjects for the main study, were asked to rank order 13 to 15 potential extensions of each of the five brands (different for each brand) on the basis of *how much sense* it made for that brand to make the product.² A rank of "1" was to be given to products that made the most sense, a rank of "2" to the product that made the next most sense and so on. Mean rank served as a measure of distance from the brand. For the main study, five extensions at varying distances were chosen for each brand.

Independent variables.

(a) Sequence. Each subject was presented with five extensions of two brands (of the five brands used in the experiment), one in ordered sequence (closest to farthest), the other in nonordered sequence. In the nonordered sequence, extensions were presented in the order 1, 5, 2, 4, 3; where 1 is the closest extension and 5 the farthest. This ordering has the property of maximizing the sum of the differences between adjacent ranks (the sum is 10). The ordered sequence 1, 2, 3, 4, 5 on the other hand has the property of minimizing the sum of differences between adjacent ranks (the sum 4). Thus, for the Honda brand name, the extensions in the ordered sequence were presented in the following order: Car Stereo, Cellular Phone, CD Player, Television, Fax Machine. In the nonordered sequence, they were presented as: Car Stereo, Fax

Machine, Cellular Telephone, Television, CD Player. Extensions for the other brands are shown in Table 1. Note that the first and fourth most distant extensions appear in the first and fourth places in both orders. This allows comparison of responses to the first and fourth extensions across the two orders.

Please Insert Table 1 Here

(b) Distance. In order to assess the impact of distance of the extension on the dependent variables, responses to the first (closest) and fourth most distant extensions were compared. Thus, the two levels of the distance factor are the first and fourth extensions.

(c) Brands. The brands used in the experiments (Table 1) served as replicates. For purposes of analysis, the levels of this factor were collapsed. All analyses are, therefore, conducted on responses aggregated across brands.

Dependent variables.

The perceived coherence of potential extensions was measured on two seven-point scales by asking subjects "how much sense" extensions made to them, and "how logical" they thought extensions were. A single item, seven point measure of purchase likelihood was phrased as: "Assuming you were in the market for a [product], how likely is it that you would purchase a [brand] [product]." The attitude toward the brand was measured using ratings on three seven-point scales: Good-Bad, Pleasant-Unpleasant, Favorable-Unfavorable. The attitude toward the brand measures were taken after subjects had been exposed to all the extensions. Finally, the time it took subjects to evaluate the stimulus screen of the fourth extension was measured in units of 1/100th of a second. Time spent responding to questions about stimulus screens was also recorded. The collection of accurate reaction times was made possible by administering the entire questionnaire on a computer.

Stimuli and procedure.

A total of 100 subjects, students registered in undergraduate marketing courses, participated in the experiment. Subjects were seated before an AT&T model 6300 personal

computer and read hard copy instructions about companies that were planning to introduce new products and needed to obtain information on consumer reactions. They then turned to their computers and responded to the questionnaire about the extensions.

Each subject responded to extensions for two brands, one in the ordered condition and one in nonordered sequence. The order in which the brands were presented was varied. Each subject responded to two out of a possible five brands, and for each combination of two brands the order in which these two brands were presented was changed. Moreover, each subject responded to both a brand with ordered extensions and a brand with nonordered extensions. As a result, a total of 40 different versions of the questionnaire were used. Subjects were randomly assigned to the treatment groups and were run in groups ranging from 6 to 16. The task took subjects between 15 and 25 minutes to complete. Subjects were then debriefed and paid \$4 for their participation.

For each brand, subjects saw five extensions. After seeing an extension they were told that the extension they had just seen had been introduced in some other region or market and had been reasonably successful. The wording of this statement was modelled after the one used in Keller and Aaker (1992). Four different versions of the statement were used, one after each extension presented (except, of course, the one presented last). One example of the statements used is presented below:

The [extension] has been introduced in some geographical areas with success.

Consumers have shown interest and sometimes will hunt for it in several stores if it is not available. Merchandisers have placed large repeat orders.

In answering questions about the next product, please take into consideration that the [extension] would already be on the market when this next extension is introduced.

Results

Manipulation checks.

Subjects responded to the questionnaires at their own pace. Time taken to respond was recorded by the computer. If time spent on the response screens is a measure of attention and/or involvement with the experimental task, we would expect it to be equivalent for the two levels of sequence. Responses concerning coherence (sense and logic) for the first extension took an average of 10.68 seconds to complete in the ordered sequence and 12.38 seconds in the nonordered sequence ($t_{162} = 1.60, p > .10$). For the fourth extension, coherence responses took on average 7.80 seconds in the ordered condition and 7.73 seconds in the nonordered condition ($t_{162} = 0.1, p > .90$). Responses to the purchase likelihood question took on average 6.78 seconds for the ordered sequence and 6.75 seconds for the nonordered ($t_{162} = .05, p > .90$). For the fourth extension, the average time spent on purchase likelihood was 5.06 seconds in the ordered sequence and 5.15 seconds in the nonordered sequence ($t_{162} = 0.16, p > .80$). Time spent responding to the three items of the attitude measure at the end of the questionnaire was 19.91 seconds for the ordered sequence and 19.63 seconds for the nonordered sequence ($t_{162} = 0.18, p > .80$). The differences between the two levels of sequence, in terms of the time spent responding to questions about extension 1 and extension 4 is not significant. Subjects in the two conditions of sequence did not differ in the amount of time spent responding to the questions.

Prior to collapsing the brands, preliminary measures of familiarity with and knowledge of the brand, past purchase of the brand's product(s), perception of the brand's quality, trustworthiness and dependability were compared for each brand across the two levels of the sequence condition (ordered vs. nonordered). No differences were observed across sequence for any of the brands other than marginally significant differences on the quality and trustworthiness dimensions for the Sony brand name ($t_{31} = 1.99, p < .06$; and $t_{31} = 1.92, p < .07$). Consequently, observations relating to the brand name Sony were not included in further analysis.

Analysis.

Data were analyzed as a 2x2x2, (ordered vs. nonordered sequence x close versus distant extension x brand) factorial design. The distance factor was within subjects while the sequence and brand factors were between subjects. Although five brands were included simply as replicates, the brand factor was included in the model to account for any variance due to a brand main effect and because an interaction, if one were detected, between the brand and other factors, would be interesting. Since each subject responded to extensions of two brands, the *position* of the brand in the questionnaire (first or second) was included as a covariate in the analysis.

Three observations were lost. One was not recorded due to a computer malfunction, while two were recorded but lost before backups could be made.

Effects on coherence.

Table 2 summarizes the results for Experiment 1. It should be remembered that the coherence measure is the mean of two items that measured how much "sense" the extension made and the how "logical" it was. The two variables were highly correlated ($r = .87$ for the first extension and $r = .92$ for the fourth extension).

Please Insert Table 2 Here

Hypothesis 1a predicts that the decrease in coherence due to distance will not be as large for a target extension arrived at through ordered extension as through nonordered extension. Thus, under the hypothesis, we expect an interaction between the distance factor and the sequence factor. The results show that the interaction between sequence and distance is indeed significant ($F_{1,148} = 8.01, p < .01$). The decrease in coherence from extension 1 to extension 4 is steeper in the nonordered than in the ordered sequence. Thus, there is support for Hypothesis 1a. The target extension (the product in the fourth position) in the ordered sequence was perceived to be more coherent than the *same* extension arrived at through a nonordered sequence of extensions.

Other results in the model show that the four-way interaction among sequence, distance, brand and position (the covariate), is not significant ($F_{3,148}=0.44, p > .70$). In addition, none of the three-way interactions is significant. However, the two-way interaction between distance and brand is significant ($F_{3,148}=11.68, p < .001$). The pattern of results suggests that brands may be differentially extendible. Since coherence for some brands drops more steeply than for others, this may indicate differences in the extendibility or "elasticity" of the brands. This conclusion is warranted if the extensions were at equivalent or comparable distances for all brands. If this assumption does not hold, the interaction may have occurred because brand extensions chosen for the study were not equivalently calibrated across brands. Given that the products used as extensions for the brands were different, and the original measure of "distance" was ordinal, it is not possible to establish whether the brand by distance interaction is due to nonequivalence in extension products or is indeed due to differences in brand "elasticity."

The interaction between distance and the covariate, position, is significant ($F_{1,148}=27.11, p < .001$). Examination of the means indicates that the change in coherence ratings from extension 1 to extension 4 is larger when brands are presented in the second position in the questionnaire. This could be due to the learning that may have occurred during the experimental task. Responses to extensions of the first brand were cautious as subjects may have been hesitant to use the entire scale, not knowing the extremity of extensions in the task ahead. In responding to extensions of the second brand, subjects used the scale more confidently, having got a sense of the breadth of stimuli from the first brand.

Effects on coherence evaluation time.

According to hypothesis 1b, the process of coherence evaluation of the target extension ought to take longer if the target extension can be rationalized as being part of the brand. Coherence evaluation time is the time spent on the stimulus screen. This screen included instructions to "consider the following extension..." and "take as much time as you want to consider this product." This evaluation time is predicted to be longer for target extensions arrived at through ordered extension than for target extensions arrived at through nonordered

extension. Coherence evaluation times exhibited positive skewness and were transformed using a natural log transformation. The position in the questionnaire (first or second) was used as a covariate. However, this covariate interacted with the sequence factor ($F_{1,163}=9.60, p < .01$). The pattern of the interaction indicates that in the first questionnaire position, the target extension (the fourth extension) in the ordered extension condition took longer to evaluate for coherence than in the nonordered (5.09 seconds vs. 4.73 seconds). This is as per the hypothesis. In the second questionnaire position, however, the situation was reversed (3.03 seconds vs. 3.91 seconds). This reversal may be revealing. Categorization theory predicts an inverted U-shaped relationship between the congruity of the object (extension) to the category (brand) and the time taken to evaluate the object (Smith, Shoben, and Rips 1974). The different results obtained in the two levels of questionnaire position may be caused by the two levels of position capturing two different parts of the inverted U-curve. That is, in the first position, the nonordered sequence is evaluated more quickly, presumably because it is incoherent and on the far end of the inverted-U and is rejected outright. The ordered sequence on the other hand takes longer to evaluate, reflecting additional rationalizing activity near the middle of the inverted-U. In position 2, there may be a reference point effect created by the extensions in position 1. When evaluating the target extension in questionnaire position 2, subjects had already been exposed to 8 extensions, some of them quite distant from the brand. Thus, the results may reflect a shift in the scale. That is, what may earlier have been perceived as incongruent may now be perceived as moderately congruent, and what was earlier perceived as moderately congruent is now congruent. As a result, the ordered extension may have shifted down to the near-end of the inverted-U while the nonordered extension moved to the middle.

Effects on purchase likelihood.

The model in this analysis involved the sequence and distance factors, and the position covariate. The brand replicate did not interact with any of the other variables, nor was there a main effect of brand. As a result, data were collapsed across brands.

Hypothesis 2 predicted that the decrease in purchase likelihood due to distance would not be as large for the target extension arrived at through an ordered sequence as for one arrived at through a nonordered sequence of extensions. The results show that the interaction between sequence and distance is not significant ($F_{1,160}=0.88, p > .30$). Thus, unlike coherence, the decrease in purchase likelihood due to distance did not seem affected by the order of extensions. There was however, an overall decrease in the ratings of purchase likelihood between the first and the fourth extension. The mean purchase likelihood fell from 4.05 for extension 1 to 2.90 for extension 4. This was reflected in a significant main effect for the distance factor ($F_{1,160}=54.89, p < .001$).

The learning effect that may have occurred for the coherence variable was also evident for purchase likelihood. Specifically, responses to the target extension for the brand that was presented second in the questionnaire were more extreme than those for the brand presented first. This is reflected in a significant interaction between the position covariate and the distance factor ($F_{1, 160}=19.46, p < .001$). Just as for the coherence variable it is believed that subjects learned to use the scale more confidently for the second brand.

Other results in the model show that the main effect of the covariate, position is marginally significant ($F_{1, 160}=3.65, p < .06$) reflecting the marginal increase in purchase likelihood from position 1 to position 2. Other interactions and main effects are not significant.

Effects on attitude.

Attitude toward the brand was the mean of the three seven-point scales (coefficient alpha for the three measures was 0.82). Hypothesis 3 predicted that attitude toward the brand would be affected adversely in the nonordered extension condition, relative to the ordered extension condition. This did not occur. There is no significant difference between the attitudes for the brands in the ordered versus nonordered condition ($F_{1,163}=.01, p > .90$). The interaction between brand and sequence, which would indicate a differential susceptibility of brands to nonordered extensions was not significant either ($F_{3,163}=0.62, p > .50$). The brands were

uniformly rated high on attitude (all above 5 on a 7-point scale) and there was no significant difference among them ($F_{3,163}=2.08, p > .10$).

Discussion

The results of the first experiment show that ordered extensions may lead to greater coherence of the target extension. In terms of the theoretical framework, this finding is interpreted as demonstrating that consumers may more easily integrate ordered extensions into the brand because of the rationalizing links provided by chaining. In other words, ordered extensions may help create coherence by taking small steps toward a distant extension. This suggests that when a firm plans multiple extensions, it is important to determine the appropriate order of product introduction. In addition, the basis of this ordering needs to be determined. In this experiment, the use of coherence provided satisfactory results.

One implication of this study is that the perceived coherence of an extension can be manipulated without changing product features or brand characteristics (other than products included in the brand category). The same product is viewed as making much more sense by those exposed to the ordered extensions than by those exposed to the nonordered extensions.

The claim that ordered extensions are perceived as more coherent because of the rationalization process may be further justified by the reaction time measures. For the first brand that subjects were shown, the results are as hypothesized -- ordered target extensions took longer to evaluate for coherence than nonordered extensions. However, the clear interpretability of the results on this measure is impaired by the interaction of sequence with the position covariate. Nevertheless, interpreting the reversal in coherence evaluation time as an effect of scaling of the distance variable allows for a plausible explanation of the overall pattern of results.

The increased coherence of a target extension was also expected to be reflected in the likelihood of purchase of the extension. Purchase likelihood remained unaffected. However, the observed pattern of results was in the predicted direction. In addition, purchase likelihood (of

the fourth extension) is found to be strongly correlated with coherence. It is found that there is a greater correlation between purchase likelihood and coherence than between attitude toward the brand and purchase likelihood of the target extension ($r = .57$ and $r = .07$ respectively). Thus, while purchase likelihood may be affected by coherence, the increased coherence in the ordered condition may not have been sufficient to have an impact on purchase likelihood. Another possibility is that because in this experiment, the direction of extension was not controlled for, there was no impact of ordered extension on purchase likelihood.

The effects of sequence of extension on the attitude toward the brand are not significant. Brands were not evaluated any less favorably in the nonordered condition than in the ordered condition. This lack of effect is consistent with Keller and Aaker's (1992) finding that extensions do not generally harm high quality "core" brands. In the present study all of the brands were rated high on quality (all four brands were rated above 5 on a three-item, seven point scale). The three items of the scale, quality, dependability, and trustworthiness, clearly measured perceptions of the brands prior to exposure to the extension evaluation task. Thus, the present experiment extends Keller and Aaker's (1992) result to very distant brand extensions (e.g. Betty Crocker refrigerator, Honda television etc.).

EXPERIMENT 2

Direction

The first experiment examined the effect of ordered versus nonordered extensions on the coherence, evaluation time, and purchase likelihood of the target extension and on the attitude toward the brand. It was seen that distant extensions may be made coherent by ordered sequential extension. However, this experiment, like all previous research did not take into account the fact that extensions may be made in different *directions*. The direction of extension may matter, especially for multiple extension situations. Indeed, it is possible that the lack of

effect of ordered extensions on purchase likelihood in the first experiment may be due to the fact that the direction component was ignored. As an example of the importance of direction, consider a brand, say, Sony. Consider further two distant extensions: *Sony men's shoes* and *Sony air fresheners*. Both extensions may seem equally incoherent, but supplying an intermediate extension such as Sony vacuum cleaners may help the air fresheners seem more coherent but may do little to improve the perceived coherence of men's shoes. It is this distinction that we hope to capture with the direction construct.

In the previous experiment, the order of extensions was explored, order being defined in terms of one dimension, that of distance. However, as the above example shows, in multiple sequential extensions, the consistency of direction may have some critical implications. An extension to a particular product may make it more difficult for the brand to extend in a different direction in the future. Thus, present extensions may have an impact the future extendibility of brands. On the other hand, if the objective is to reach a target extension through sequential extensions, it may not be sufficient to determine a ranking of the distance of various candidate extensions. Some extensions may be less distant and thus seem good candidates for intermediate extension. However, if they are in a different direction than the target extension, they may not be helpful as intermediate extensions, and may even be counterproductive. The second experiment will examine the effect of consistent direction of extension on the coherence and purchase likelihood of target extensions.

In brand extension research distance has often been conceptualized in terms of the lack of shared features between two products. Such a definition may limit considerations of fit (and distance) to matches between product features. A more comprehensive measure might be the degree of match that consumers perceive between the *brand* and the extension products. In conceptual terms, this means redefining fit in terms not necessarily limited to feature matching. Global perceptions of fit provided by consumers may tap more than similarity. This was the basis of the coherence measures employed in the first experiment. In the second experiment, this definition of distance is expanded to include a notion of direction.

Categorization researchers have often used spatial representations of categories (Brugman 1981; Lakoff 1987a; Smith, Shoben and Rips 1974; Rips, Shoben and Smith, 1973). In these spatial representations, categories or their members are located in multidimensional space. The location of the categories or elements reflects an estimate of their relative distances and directions from each other in a "mental representational space." As Rips, Shoben and Smith show, "semantic distance ...can be represented as Euclidean distance in a multidimensional space..." (p. 4). In similar fashion, this experiment uses multidimensional spatial representations to operationalize the notion of direction. By using a spatial representation of brands and extensions, it is possible to ask whether multiple extensions are more likely to be perceived as coherent when they occur in a consistent (same) direction than when they occur in different direction. The question posed is, do multiple extensions that occur in different directions provide lower coherence to the target extension than those that occur in the same direction? When multiple extensions occur in the same direction, the closer extension provides an intermediate extension that, given the results from the first experiment, ought to facilitate the acceptance of the more distant extension. The hypotheses tested in this experiment are:

H1a: An intermediate extension that is in the same direction as the target extension will yield:

- (a) greater perceived coherence for the target extension; and
- (b) greater intention to purchase the target extension.

Method

Pretest.

As part of the pretest for Experiment 1, ranking data had been obtained for sets of potential extensions for a number of brands. Data for four of these brands (Adidas, Colgate, Honda, and Sony) are used as input to an ideal point multidimensional unfolding (ALSCAL algorithm). Traditionally, ideal point models have been used in marketing to map preferences. In such instances, the input data usually consist of rankings or paired comparison preferences of brands or products. The model then estimates the positions of the various brands or products in

multidimensional space and also locates an ideal point which is the combination of attributes that is most preferred by each subject. In the present experiment, the procedure is modified in that the input data consist of a ranking of potential extensions for a brand. Thus, ideal points can be interpreted as the location of the ideal extension. This is interpreted as the location of the brand with respect to the potential extensions. Since the ideal points obtained for the 44 subjects were highly clustered, the mean location on each dimension was taken to be the location of the brand. The stress values and R^2 for each two dimensional brand map are shown in Table 3. An example of the resulting multidimensional maps is shown in the Figure. The arrows represent the directions of extension which are investigated in this experiment. The stimuli (extensions) for each brand in the both directions are shown in Table 4.

Please Insert Table 3 Here

Please Insert Table 4 Here

Please Insert Figure Here

Independent variables.

The factor of interest here is direction. The two levels of direction that are of interest are: consistent and inconsistent. For each brand, two directions were identified such that they were distinct from each other. These directions are represented by the arrows in the map presented in the Figure. Two potential extensions were identified in each of the directions, one closer to the brand than the other (For the purposes of this experiment, these will be called called the intermediate and target extensions respectively). For example, as shown in the Figure, the intermediate extension in direction 1 for Honda is Motor Club, and the target extension is Travel Service. In direction 2, the intermediate and target extensions are Car Stereo and CD Player respectively. These two intermediate extensions were crossed with direction to yield a 2x2. The four cells of this 2x2 are labelled condition 1 through condition 4. In condition 1, subjects were presented with the intermediate extension in direction 1 followed by

the target extension in direction 1. In condition 2, they saw the intermediate extension in direction 1 followed by the target extension in direction 2. In condition 3, subjects were exposed to the intermediate extension in direction 2 and the target extension in the same direction. Finally, in condition 4, subjects were presented with the intermediate extension in direction 2 and the target extension in direction 1.

Thus, in conditions 1 and 3, subjects responded to extensions in a consistent direction. That is, both the intermediate and the target extensions were in the same direction. In conditions 2 and 4, the extensions were in inconsistent directions. A comparison of conditions 1 and 3 versus conditions 2 and 4 ought to provide an adequate test of the importance of the consistency of direction.

Replicates and blocking factors.

Four brands were chosen as replicates. Each subject responded to all four brands, each in a different condition. The data were collapsed across brands for analysis. Since each subject responded to all four brands, each brand in a different condition, and because the order of presentation of the brand/condition combinations was varied, the questionnaire version (or form) and position (i.e., brand/condition order) were blocked in the design. A summary of the resulting design is presented in Table 5.

Please Insert Table 5 Here

Dependent variables.

The dependent variables included the coherence measures (sense and logic) and the purchase likelihood of the extension.

Stimuli and procedure.

A total of 117 subjects responded to a paper and pencil questionnaire. Twenty six replicates were chosen at random from each condition so as to have a balanced design. Thus 104 questionnaires were used. Subjects were informed of the purpose of the study in general terms and asked to work through the questionnaire sequentially (without looking ahead or back

in the booklet) at their own pace. Subjects were in a classroom setting. Groups ranged in size from 21 to 29. All forms were used in each group. The forms were randomized prior to distribution. The task took between 10 and 20 minutes. Subjects were debriefed and thanked for their participation

For each brand subjects saw two extensions. For each extension they were asked to rate the coherence (sense and logic) and the likelihood that they would purchase the extension. As in the first experiment, after presentation of the intermediate extension for each brand, subjects read a statement which indicated that the intermediate extension had already been made and that they were to take this into account when answering questions about the next extension. The wording of the statements was similar to the one in the first experiment.

Analysis and Results

The coherence measure was made up of the sense and logic variables which were highly correlated for the target extension ($r = .93$). The analysis was conducted using a Latin Square design. This allowed for an estimation of the main effects of the blocking factors and replicates.

Conditions 1 and 3 represented intermediate and target extensions in the same direction. Conditions 2 and 4 represented target extensions in a different direction from the intermediate extension. Hypothesis H1a predicts that when the direction of extension is consistent, the target extension will be perceived as more coherent than when the intermediate extension is in a direction different from the target. This is tested by checking for an effect of condition. Under the hypothesis, we expect a significant effect of condition. Within this effect, we expect there to be no difference between conditions 1 and 3, nor any difference between conditions 2 and 4. The effect of condition is expected to arise from a difference of conditions 1 and 3 versus conditions 2 and 4. Table 6 summarizes the results for this experiment.

Please Insert Table 6 Here

The main effect of condition on coherence is significant ($F_{3,316}=22.54, p < .001$). Table 6 shows that the mean coherence rating for target extensions arrived at through a consistent intermediate extension are higher than those arrived at through inconsistent intermediate extension. An examination of the means for the various cells through planned contrasts reveals that, as expected, there is no difference between conditions 1 and 3 in terms of rated coherence ($F_{1,316}=.01, p > .90$). There is, however, a significant difference between the mean coherence ratings for conditions 2 and 4 ($F_{1,316}=13.84, p < .001$).

The main effects of brands and the blocking factors (forms, position) are all significant at $p < .01$, providing a more powerful test of the hypothesis.

The effects of consistency of direction on purchase likelihood are as hypothesized. The main effect of condition is significant ($F_{3,316}=6.6, p < .001$). The means in Table 6 show that the purchase likelihood for target extensions in the consistent direction is greater than that for target extensions in the inconsistent direction. Further, planned contrasts show that, as expected, there is no difference between the consistent direction conditions, 1 and 3 ($F_{1,316}=.23, p > .60$). Similarly, there is no significant difference between the purchase likelihood of the two inconsistent direction conditions, 2 and 4 ($F_{1,316}=2.43, p > .10$).

The main effects of brand and the blocking factors (form and position) are all significant at $p < .01$, providing a more powerful test of the hypothesis.

Discussion

This experiment was designed to examine whether direction of extension had an effect on the coherence and purchase likelihood of target extensions. The results support the contention that the consistency of direction of extension may be an important factor to consider, especially for multiple extensions. When only one extension is involved, it may still be important to take into consideration the direction of extension because an extension in a particular direction may limit future extendibility of the brand. In addition, this experiment provides evidence that consistency of direction in multiple extensions may have an impact on the

purchase likelihood of target extensions. This result provides a link between coherence and purchase likelihood, one that had proved elusive in the first experiment.

Conceptually, this experiment provides support for the validity of spatial representations as substantial and material reflections of mental representations. The effects of direction of extension on the coherence and purchase likelihood may demonstrate a relationship between the mental representations of categories and their effect on reasoning and evaluation. In addition, the method used in the pretest to establish the position of a brand in product space may prove a valuable tool in brand extension and brand image research. It provides a method by which a brand's extendibility may be evaluated with regard to a reasonably large set of potential extensions. It may also be used to evaluate the relative position of two similar but not equivalent brands with regard to a set of potential extensions.

GENERAL DISCUSSION

Results of the two experiments provide support for the argument that there are benefits to considering the ordering of multiple extensions and the direction of such extensions. Conceptually, the use of coherence, as opposed to the more traditional use of similarity, to define fit seemed satisfactory. The coherence measure correlated well with purchase likelihood in Experiment 1 and behaved in a pattern very similar to purchase likelihood in Experiment 2 when direction was included. The notion of chaining was supported by the results of Experiment 1. The hypothesis that chaining occurs as a process of rationalization was also provided some support by the data on coherence evaluation time for the target extension.

The value of direction of extension was evidenced in Experiment 2. The results show that the use of spatial representations based on coherence may provide a basis for predicting the purchase likelihood of brand extensions. Such spatial representations are linked to perceptions

of coherence and intention measures such as purchase likelihood. This link was used in this study to demonstrate the importance of the notion of direction in brand extension.

Findings from these two studies are consistent with extant theory and previous results in categorization and brand extension research. The empirical test of the chaining hypothesis and the rationalization process behind it provide support to Lakoff's (1987a; 1987b), and Murphy and Medin's (1985) claim that categories may extend through processes other than similarity. Thus, many categories may be composed of objects held together by *theories* or sets of rationalizations. Past research in brand extension has investigated the effects of similarity on the affective evaluation of brand extensions where similarity exists between current products and potential extensions. In contrast, the coherence construct taps the fit between the brand concept (as opposed to existing products of the brand) and the extension products.

The results also suggest that attitude toward the brand may not be harmed by nonordered extensions. This is consistent with Keller and Aaker's (1992) finding that high quality brands tend not to be harmed by distant extensions. The affective evaluations of specific extensions (e.g., the target extension) may be harmed. However, the present study did not measure attitudes toward individual extensions. Previous research suggests, however, that moderate incongruities may be evaluated more favorably than very incongruous or very congruous stimuli (Mandler 1982; Meyers-Levy and Tybout 1989). Given this theory and the results on coherence and coherence evaluation times obtained in the present study, it can be hypothesized that in the ordered extension condition, the target extension would be evaluated more favorably than the same extension in the nonordered extension. However, an interaction with the a priori perceptions of the quality of the brand might be possible.

Resorting to abstract coherence criteria instead of feature similarity may be a pervasive consumer strategy. For example, research into consumer decisions about noncomparable products shows that incomparability on features may force consumers to resort to abstract criteria of comparison (Bettman and Sujian 1987; Johnson 1984; Park and Smith 1989). Noncomparable choices are placed together in a set based on abstract criteria that have little to

do with similarity. Similarly, in the brand extension context, when consumers are confronted with a distant extension of a familiar brand category, they may resort to abstract categories or theories to rationalize such extensions.

Managerially, this research provides implications for decisions concerning multiple brand extensions. In undertaking multiple brand extensions or in targeting a distant extension through intermediate extensions, a firm must address two questions: what will be the order of the extensions; and in which direction should the extensions be undertaken? The present research has attempted to address these issues. The results suggest that ordering extensions in terms of the a priori coherence of these extensions to consumers may be useful provided one also takes into account the direction of extension. For example, furniture polish and clothing may be roughly equidistant from the brand name colgate in terms of coherence, but as shown in Experiment 2, they may be perceived to lead in different directions. As such, the two products may have very different implications for the success of further extensions. Thus, the study points out the importance of taking both distance and direction into account in brand extension. Moreover, it underlines the fact that both variables must be determined empirically, since consumer perceptions may not conform with managerial intuition.

Limitations and Future Research

While the use of real world brands may increase the external validity of the results, other constraints of the lab setting may limit such generalizability. The entire task was undertaken within a space of 10-20 minutes. In a real world setting, extensions through chaining might be made over a period of months or years. The additional time might allow consumers more opportunity to extend their brand categories gradually, and to rationalize the extensions, to assimilate them into the brand. As a result, it might be expected that the coherence of distant target extensions could be rationalized more effectively in a real world setting. Such rationalization would of course be facilitated by marketing communication efforts.

In the present experiment, an attempt was made to offset this lack of time to rationalize the extension by providing information about the reasonable success of previous extensions.

The real-world setting provides another all-important factor that could not be introduced into the experiments. Real world extensions permit experience with the physical entity of the brand extension. Experience with an extension may have the property of confronting consumers with a *fait accompli*, thus "forcing" them to extend their categories by rationalizing the extension.

One possibility that emerges from the present study is that initial attitude toward the brand may be more predictive of attitude and purchase intention for extensions that are close to the brand than for extensions that are distant. Affective evaluations of more distant extensions may be based more on the coherence of such extensions. Correlational data from Experiment 1 show that the correlation between the attitude toward the brand and the purchase likelihood for the first (closest) extension is higher than the correlation between attitude and purchase likelihood for the fourth extension ($r = .27$ vs. $r = .16$). Conversely, the relation of coherence to purchase likelihood increased from extension 1 to extension 4 ($r = .49$ vs. $r = .60$). This might suggest that in ordered extensions, initial extensions may be evaluated by affect transfer, while more distant extensions are evaluated more cognitively. Future research might profitably investigate this question.

The research reported here has attempted to explore the questions of order and direction of brand extension. The conceptual basis used for this is recent categorization theory. The two studies that looked at the issue of order of extension and direction of extension respectively provide support for the importance of order and direction in brand extension decisions. In addition, the use of coherence as a basis of fit, spatial representations as a means of operationalizing direction seem to be justified based on the results and would appear to warrant further investigation.

FOOTNOTES

- ¹ It is believed that people will tend to search for rationalizations that confirm category membership (rather than disconfirming arguments), because of the bias toward confirming evidence (Hoch and Ha 1986).
- ² Distance between a brand and a potential extension can be conceptualized as the inverse of the perceived fit between them. The "sense" measure provides an indication of the perceived fit based on coherence (Lakoff 1987a; Medin and Wattenmaker 1987). Such a conceptualization of fit has been proposed in the brand extension literature by Bridges (1989) and Hartman, Price and Duncan (1990).

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TABLE 1: Experiment 1, Stimuli**Brands and Potential Extensions**

<u>Brand</u>	<u>Extensions</u>	
	<u>Ordered</u>	<u>Non-ordered</u>
Adidas	Beach-wear Bath Soap Shaving Cream Razors Shampoo	Beach-wear Shampoo Bath Soap Razors Shaving Cream
Betty Crocker	Toaster Oven Juicer/Blender Microwave Oven Refrigerator Dishwasher	Toaster Oven Dishwasher Juicer/Blender Refrigerator Microwave Over
Colgate	After-shave Colgne Women's Perfume Mascara Air Freshener	After-shave Air Freshener Cologne Mascara Women's Perfume
Honda	Car Stereo Cellular Phone CD Player Television Fax Machines	Car Stereo Fax Machine Cellular Phone Television CD Player
Sony	Microwave Oven Refrigerator Coffee-maker Vacuum Cleaner Juicer/Blender	Microwave Oven Juicer/Blender Refrigerator Vacuum Cleaner Coffee-maker

TABLE 2: Experiment 1, Results

Coherence, Purchase likelihood, Evaluation, and Evaluation Time as a Function of Sequence and Distance

	<u>Ordered</u> (N=84)		<u>Non-ordered</u> (N=80)	
	Close	Distant	Close	Distant
Coherence	5.17 (1.44)	4.22 (1.65)	5.06 (1.49)	3.36 (1.63)
Purchase likelihood	4.05 (1.57)	3.05 (1.65)	3.98 (1.55)	2.76 (1.37)
Att Brand	5.36 (1.18)		5.36 (1.26)	
Evaluation time	4.01 (2.23)		4.34 (3.76)	

Numbers are Means; Numbers in parentheses are standard deviations.

TABLE 3: Experiment 2, Pretest

R² and Stress Values for 2-dimensional Unfolding - N=44

<u>Brand</u>	<u>Stress</u>	<u>R²</u>
Adidas	0.19	0.96
Colgate	0.18	0.97
Honda	0.21	0.95
Sony	0.12	0.98

TABLE 4: Experiment 2, Stimuli

<u>Brand</u>		<u>Extensions</u>	
		<u>Direction 1</u>	<u>Direction 2</u>
ADIDAS	Intermediate Target	Bathsoap Shampoo	Back Pack Brief Case
COLGATE	Intermediate Target	Furniture Polish Car Wax	Clothing Shoes
HONDA	Intermediate Target	Motor Club Travel Service	Car Stereo CD Player
SONY	Intermediate Target	Furniture Polish Air Freshener	Juicer/Blender Refrigerator

TABLE 5: Experiment 2

Design for Experiment 2

	<u>Form 1</u>	<u>Form 2</u>	<u>Form 3</u>	<u>Form 4</u>
Position 1	B1 C1	B2 C3	B3 C4	B4 C2
Position 2	B2 C2	B1 C4	B4 C3	B3 C1
Position 3	B3 C3	B4 C1	B1 C2	B2 C4
Position 4	B4 C4	B3 C2	B2 C1	B1 C3

B1 = Adidas, B2 = Colgate, B3 = Honda, B4 = Sony; C1 = Condition 1, C2 = Condition 2, C3 = Condition 3, C4 = Condition 4. Form is the version of the questionnaire, Position is the location in the questionnaire. Form and Position are blocking factors.

TABLE 6: Experiment 2**Coherence and Purchase Likelihood of Target Extensions in Consistent and Inconsistent Directions**

	<u>Consistent</u>		<u>Inconsistent</u>	
	Cond. 1 (N=109)	Cond. 3 (N=108)	Cond. 2 (N=107)	Cond. 4 (N=107)
Coherence	4.37 (1.70)	4.37 (2.01)	3.03 (1.61)	3.78 (1.59)
Purchase likelihood	3.40 (1.74)	3.32 (1.74)	2.73 (1.42)	3.00 (1.48)

Numbers are means; Numbers in parentheses are standard deviations.

Figure
Product/Brand Space: Honda and Potential Extensions

