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Brand Deployment Consistency and Market Share

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An abstract of
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Abstract

Brand Deployment Consistency and Market Share
By Harry Brice Antonio

Brand consistency refers to the degree of congruence among all aspects of a brand and surrounding marketing activities. Past research on brand consistency has largely been in the context of laboratory studies in evaluating brand extensions, or limited to consideration of a single focal category; there is little work examining its effects in field studies across the entire deployment of a brand, especially linking it to a brand's product market performance. An important aspect of consistency is how a brand is deployed across categories. A brand is asserted to have degrees of consistency in regard to the categories in which it competes, and its price and promotional emphasis in relation to the norms of those categories. The importance of consistency in a brand's deployment across categories is developed by considering the functions of a brand and by drawing on principles from the brand extension literature. Household scanner panel data from the IRI Builders 2007 database is used to test hypotheses relating consistency in brand cross-category deployment to market share. Results support a main effect for three measures of consistency, as well as interaction between them. A key result is that if a brand is not consistent in all aspects, then the benefits of consistency are mitigated.

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1. Introduction

Understanding factors that affect a brand's product-market performance is a key research area in marketing. To date, work in this area has largely been in the domain of marketing mix models which link a brand's marketplace actions to its performance outcomes. Early studies described a brand's marketplace actions by measures of its marketing mix effort (e.g., price; promotions).

More recently, researchers have sought to relate a brand's strategic decisions to its marketplace performance. Rao et al. (2004) examines a "house of brands" vs. "branded house" strategy as it relates to Tobin's q, while Morgan and Rego (2009) look more specifically at the number of brands in a portfolio, the number of segments competed in, and several other marketing and financial variables. Theirs were firm-level studies. Less work has explicitly examined the effect of strategic decisions at the brand level. Their research sheds light on a brand portfolio from the firm as the level of analysis, but does not go into how breadth, diversity, or related constructs may work on an individual brand level. Just as a firm may have multiple brands competing in multiple industry segments, an individual brand may have multiple products competing in multiple categories. However, the apparent parallel ends here; the role of the brand and the role of the firm are very different. On a financial level, a firm can be measured by valuation and risk. While a brand could in theory be assessed on these same dimensions, it is more common to focus on product-market performance as measured by sales and market share. More importantly, a firm can hold many diverse companies and brands under its umbrella. Some may have little apparent connection from a consumer standpoint. The brand, by its very nature, consistently marks itself in clear visual form and name across its products.

Thus, brand portfolio research does not answer the question of how individual brands are to be managed across categories, which requires the perspective of the brand, not the firm.

The perspective of the brand is the one brand managers take while making decisions on how they want their products to be known. These decisions are realized in the brands that mark their products. In time, if successful, these brands are built up into powerful assets for the company. Inevitably, the decision comes of how best to deploy these assets.

Fundamental decisions on deployment of brand assets can center on where they are present, and how, or in what manner, they are present. In many industries, these questions form the basics of market segmentation, targeting, and positioning. In a consumer packaged goods industry setting, such as a local grocery store, managers must decide in which categories the brand should compete. In those categories in which the brand competes, the brand will carry a relative price and promotional status, matching it to or setting it apart from the competition.

Marketing practice has long argued that consistency is crucial to a brand's success (e.g. Park et al. 1986). Taken to an extreme, the Coke brand, with its red and white logo, would be unrecognizable as Coke if it were called a different name, in a different font, in different colors. To attempt this and pass it off as "Coke" would likely seem absurd to consumers and managers alike. A brand's name and logo are its identifiers, and should be consistent for the brand to function. Consistency in other aspects can be less straightforward.

Beyond name and logo, consistency can concern positioning as conveyed to consumers through advertising messages. These messages can be used to establish the aspirational characteristics of a product, a clear value proposition, superiority in a feature of customer concern, or any other associations that companies wish to be made. To the degree that these messages are the same or support one another, they can be called consistent. Congruent associations make for a strong, cohesive brand (Keller 1993). While these are important considerations, positioning as communicated through advertising is just one way in which a brand can be consistent. This study incorporates multiple instances of a brand simultaneously, and in doing so deals with a larger form of consistency: consistency in a brand's deployment.

Deployment refers to resources (asset stocks owned by a firm, e.g. brand equity) put into action. In the context of marketing, market deployment is defined as "the degree of action directed toward managing organizational resources in the marketplace." (Slotegraaf et al. 2003). These actions include traditional parts of the marketing mix, and are taken to generate market response. Market deployment differs from related constructs of resource allocation, resource utilization, and implementation.

This study follows Slotegraaf et al.'s (2003) conceptualization of market deployment, which used as its measures of marketing deployment brand-level actions taken by the firm to generate market response. They showed that firm resources play a role in market deployment. This study considers that consistency in deployment may also have an effect. In this work, brands are the resources being put into action by the firm. These brands are put into action through decisions on which products(categories) to sell

(in), the price at which to sell, and promotional emphasis. The intended market response firms seek to generate is purchase, as measured by market share.

The principle of consistency in name, logo, positioning, or communication mentioned above can be extended to the concept of deployment. During a trip to the local grocery store, a customer will encounter a brand being sold in different categories, at different prices, with different promotional emphasis. In some ways, these differences can be viewed as a lack of consistency in the brand's deployment. To what extent this lack of consistency in a brand's deployment impacts the performance of the brand is a question as yet unanswered, and is what this research aims to investigate.

2. Background

A brand's consistency is examined in this study in two dimensions: its presence in multiple categories, and its relative position in regard to the price and promotion characteristics of those categories. As such, consistency of a brand relates to literature on multiple occurrences of a brand, the marketing mix elements of price and promotion, and category characteristics. These are taken as primarily cross-sectional considerations, even though a single cross-section may be the product of years of brand and category evolution. Consistency could potentially apply to both a cross-sectional and longitudinal assessment of brand occurrences in different categories, however.

A brand does not come to be present in multiple categories in an instant. Rather, a brand grows to this position through a series of brand extensions. Over time, brand extensions can be added and/or deleted, and a brand can be re-positioned in the marketplace through changes in its marketing relative to competitors. The literature on

brand extensions mostly focuses on the product of the extension, such as in Aaker and Keller (1990) or Park et al. (1991), which view the extension in terms of consumer evaluations. Research has also been done on how extensions impact the extending brand (Keller and Aaker 1992). In both cases, the concept of fit, how well the extension matches up to what the brand already is, plays a prominent role in the transference of views from the brand to the extension, or vice versa. Of particular relevance to this study, brand extensions, when they are consistent, can lead to better evaluations not only of the original branded product, but of the family brand name as a whole (Jap 1993).

Research in this area is important because it shows us that there is potential for both the existence of a brand to have an impact on its extension, and the existence of an extension to have an impact on the original or family brand. This study is different from prior research first and most importantly because it considers the relation of each brand/product combination, or extension, not to some single parent brand but to every occurrence of the brand. Also, it does this in a relatively steady state where all brand extensions already exist and have existed simultaneously. Furthermore, it uses the objective performance measure of market share, as opposed to the consumer evaluations used in the brand extension research noted above.

As a whole, the traditional marketing mix of price, promotion, product, and place is largely accepted to have an impact on market share; these tools consist of everything the firm can do to influence the demand for its product (Armstrong and Kotler 2005). Exactly what the impact of price and promotion are, their size and duration, and under what circumstances they are effective is less agreed on (Srinivasan et al. 2000). Studies show their effects depend on moderators including order of entry (Bowman and Gatignon

1995) and category characteristics (Bolton 1989). What is clear is that each part of the mix has the potential to influence market share, so in comparing differences in price and promotion, as this study does, it is advantageous to control for both price and promotion.

Fader and Lodish (1990) first introduced consideration of categories and category measures in a setting where all categories were accounted for, though other work (e.g., Bolton 1989) had considered subsets of the larger group of categories present in a store. Characteristics of categories have been used to explain performance, particularly price elasticity, along with promotional efforts and other marketing variables. Narasimhan et al. (1996) showed that the wide difference between brands in their sales response to promotions was partially attributable to the categories the brands competed in. However, their research, like much of its kind, looked at the impact of category characteristics on an average brand in the category, not on any one brand in particular. This study seeks to use the characteristics of categories, namely, average price and promotion, as they relate to each focal brand of interest.

To the author's knowledge, no previous research has looked at how the concepts of consistency in these settings may interact with one another.

3. Theoretical Development

As indicated above, brand consistency is studied from two perspectives: in terms of the categories brands compete in; and the brand's relative price and promotional emphasis in those categories. This study will test the main effect of each, and lay the groundwork for their interaction.

Consistency is taken to be the degree of congruence among all aspects of a brand and surrounding marketing activities. For a brand to be consistent in regard to the categories it is deployed in, these categories themselves must have some overlap or closeness in association from the perspective of the consumer. However, a brand is not necessarily deployed the same way in all the categories it competes in. As a result, levels of consistency are not the same for all brand-Type combinations under the same brand umbrella. This brand-Type combination is the presence of a brand within a Type, or subcategory, inclusive of all the products sold under that brand within the Type. For an occurrence of the brand within a type, consistency may be high if there are many products of the same brand with the same category, or low if the brand is deployed in many other categories. This category consistency is independent of other brands that may be in the same category, and depends only on the existence of the same brand in different categories. Some categories may be closer in association, or product class (discussed below), than others.

In this way, each brand occurrence's consistency is a function of both the category it competes in and the categories other occurrences of the brand compete in. A brand may be spread out among many categories, or tightly clustered within a few. A brand that is spread out would have products competing in categories that did not have similarities in association or product class, and thus be considered inconsistent in its deployment. In a grocery store environment, due to store layout, brands in dissimilar categories would be physically spread out as well. For example, for a brand with two products, having one product be a toothpaste and another be a toothbrush would be more consistent than having a toothpaste and frozen hamburgers.

Prior research indicates this view of consistency has implications for the brand. Aaker (1982) showed brands are positioned in a product class. The product class is the group of similar products that share a common function or meet a common need. Deviations from that product class may cause confusion. Aaker and Keller (1990) looked at consumer evaluations of brand extensions and found that transfer of the perceived quality of a brand is enhanced when the product classes fit together. Fit can be both perceptual, meaning the product classes are similar to one another in the eyes of the consumer, or more objective, such as the similarity of brand competition and price levels. In Aaker and Keller's (1990) paper, as in much of the brand extension literature, the focus is on perceptual fit. These findings indicate that a brand deployed over a closer group of product classes may perform better, due to higher perceived brand quality. In the environment of a grocery store, this translates into the presence of brands in categories that are less spread out, meaning the brand is deployed among categories with similar product classes, and is thus consistent.

On the other hand, it is possible that a brand that is very spread out may have other benefits. One of the functions brands serve is to simplify choice for customers (Keller and Lehmann 2006). The presence of the brand in many categories could make the simplification of choice function of the brand higher for consumers, since once the brand is decided on, the number of decisions a consumer has to make is reduced by the number of times the brand is purchased. If this is the case, an inconsistent brand, having a high spread across categories and more opportunities to be purchased, may actually be more attractive and more likely to be purchased than a consistent brand, leading to higher market share for its products. However, following on the reasoning from product

extensions, if the brand is not consistent, then the consumers would not be making the same choice each time; rather, the brand would mean different things in different categories, which means there would be no benefits from simplification of choice. Thus,

Hypothesis 1:

All things equal, lower values of a brand's distance from other occurrences of that brand are associated with higher market share for that brand,

where distance is an inverse measure of consistency, based on a calculation utilizing the data's tree structure, as explained in the Methodology section.

The second way a brand deployment can be consistent is in regard to a brand's relative price and promotion emphasis within the categories in which it competes. This is a function of both the category measures of average price and promotion and the brand's price and promotion in each category. In each category a brand competes in, it can be priced above or below average and promoted to a higher or lesser degree. Consistency in relative price and promotion practices may cause stronger positioning. This consistency may make the brand more attractive for consumers and more likely to be purchased.

The brand is a marker for the offering of a firm and promises a particular quality level (Keller and Lehmann 2006), and if this marker is not consistent, it may cease to be valuable to the consumer. Consumers may wonder at a brand that is high priced in one category and low priced in another. In this case, the promise is either not clearly made, or made and broken. This argument rests on the notion a brand needs to be what customers expect in order for it to be successful. Indeed, in brand-customer relationships, customer evaluations are higher when brands behave as they are expected to (Aaker 2004). A brand that is consistent in relative price and promotion makes the promise of a particular quality

level and follows through on that promise, filling its function as a trusted marker for the offering, and thus generates higher sales.

Hypothesis 2:

All things equal, the more consistent a brand's relative price with that of other instances of the brand across categories, the higher the market share for the brand.

Hypothesis 3:

All things equal, the more consistent a brand's relative promotion with that of other instances of the brand across categories, the higher the market share for the brand.

While consistency is important in each of these areas, if a brand is not consistent with regard to the choice of categories it is deployed in, the detrimental effect of the inconsistency in price or promotion may actually be less than if the consistency in categories were higher. Differences in relative price and promotion of a brand may work better when they occur in relatively disparate categories, for two reasons. First, the competitive set may be different, so even keeping some promotional practices the same may cause relative differences. Second, the differences in disparate categories may be less jarring, or even noticeable, to customers, since due to store layouts, they are less likely to be physically located next to one another.

Brands with lower levels of consistency in the categories they compete in, that is, more spread out brands, might mitigate the effects of this inconsistency by taking advantage of the fact that each product is not constrained by a central category group. This may allow for precise calibration of price and promotion for each product suitable for the individual category the product is placed in. Thus, a brand's consistency in

category choice will have a moderating effect on the impact of consistency in price or promotion on market share.

Hypothesis 4:

Consistency in relative price will be associated with lower(higher) market share for those brands with a low(high) degree of consistency across categories.

Hypothesis 5:

Consistency in relative promotion will be associated with lower(higher) market share for those brands with a low(high) degree of consistency across categories.

4. Methodology

In each hypothesis, market share is the dependent variable of interest. As such, market share estimates are made to be logically consistent by using a log-log model of the type developed by Nakanishi and Cooper (1982). This is done by taking the log of each variable divided by its geometric mean, then proceeding to run a linear regression. This process begins by first modeling market share as the product of the 12 independent variables:

$$SHARE = A^{a0}B^{a1}C^{a2}\ldots L^{a11}$$

where all variables are for the same brand, and all for the same time, and where A through L are the following independent variables: LOYALTY, PPV, POVPR, POVOAD, OCCASIONS, DIST, OCCUR, TYPES, VARIANTS, POVPRCONSIST, POVOADCONSIST, PPVCONSIST.

SHARE is the sub category volume share and is the dependent variable. DIST, POVPRCONSIST, POVOADCONSIST, and PPVCONSIST are the measures of

consistency for category presence, price reductions, any deals, and price, respectively. PPV, POVPR, and POVOAD are controls for price, price reduction promotions, and all deals(promotions) to ensure any effects seen from the corresponding consistency measures reflect the effect from the variation and not just the relative value (e.g. drop price to get market share). OCCUR, TYPES, and VARIANTS are used to control for factors related to category consistency as measured by DIST.

OCCUR is the number of occurrences of the brand and is introduced as a control variable to account for the supposition that brands with more products on the shelves may naturally be more successful, and be associated with higher market shares in the categories in which they compete regardless of their consistency. In this way, OCCUR serves as a proxy for brand strength. This is important because a brand's DIST can only increase as the number of occurrences increases, and it should be determined whether any changes in market share associated with a brand's DIST are merely driven by the number of occurrences. Similarly, the VARPPV may tend to increase with OCCUR. Having OCCUR present helps alleviate these concerns. VARIANTS works in a similar manner, but instead of occurrences among all categories, it counts the occurrences within the same category. TYPES should tend in the opposite direction; TYPES is similar to DIST because it depends on the other categories a brand is present in, and would be expected to be correlated with SHARE in the same direction. However, it is simply a count of these categories, not the measure of distance that captures consistency. Even though they are expected to move in the same way, there should be evidence of a significant relationship between DIST and SHARE after controlling for TYPES. Further information on these measures is provided in the below data discussion.

In order to be able to run a linear regression on the data, the above model is put through a log transformation, taking the log of both sides to yield

$\ln(SHARE) = a_0\ln(A) + a_1\ln(B) + a_2\ln(C) + \ldots + a_{11}\ln(L)$

For DIST, a significant negative estimate of the coefficient would support the first hypothesis, while significant positive estimates of the other consistency measures would support hypotheses 2 and 3.

To introduce interaction effects to test Hypotheses 4 and 5, the original model is modified to have the effect of price and promotion measures vary according to a dummy variable for distance. DDIST is coded as 0 for less than the mean of DIST and 1 for greater than the mean of DIST, and added to the model to produce

$SHARE = DIST^{a0}PPVCONSIST^{(a1+DDIST*a2)}POVPRCONSIST^{(a3+DDIST*a4)}*$

$POVOADCONSIST^{(a5+DDIST*a6)}*[CONTROLS\ldots]$

Applying the log transformation yields

$\ln(SHARE) = a_0\ln(DIST) + a_1\ln(PPVCONSIST) + DDIST*a_2\ln(PPVCONSIST) +$

$a_3\ln(POVPRCONSIST) + DDIST*a_4\ln(POVPRCONSIST) +$

$a_5\ln(POVOADCONSIST) + DDIST*a_6\ln(POVOADCONSIST) +$

$[\ln(CONTROLS)]$

Significant, negative estimates for a_2, a_4, and a_6 would provide support for hypotheses 4 and 5, indicating a significant interaction between DIST and PPVCONST, POVPRCONSIST, AND POVOADCONSIST, respectively.

Data

The data comes from the IRI Builders database. The Builders data tracks purchases of brands and categories from scanner panel households. Data for the year

2007 will be used, the most recent year available from the database at the time the project was initiated.

The individual entries in the database, labeled as “brands”, are coded by a combination of brand and product (eg. “Hefty One Zip”). Hereafter, these will be more accurately referred to as products, and the brand family name common across all the like-branded products (eg. “Hefty”) will be referred to as brands. These products are organized in a tree structure, where, going up the tree, each product is in a Type (eg. “Sandwich/Freezer/Food Storage Bags”), a Category (eg. “Food & Trash Bags”), and a Major (eg. “Nonedible”).

[Insert Figures 1 and 2 about here]

In the 2007 data, the Builders database contains, after removing conglomerate brand labels such as “private” and “generic”: 11,077 products; 3,774 brands; 841 Types; 292 Categories; and 8 Majors. The label of Type effectively means a sub-category, while the label of Major indicates a super-category. Within these, there are 7,419 unique brand & Type combinations.

[Insert Tables 1 and 2 about here]

1,559 of the 3,774 brands in the database have more than one associated product. Of these, 1,312 brands have products in more than one Type. As Figure 3 shows, the number of brands present in a given number of types is skewed. Only brands present in multiple Types are used because the concept of consistency fails to have meaning if there is no comparison; a brand that is not sold in more than one type could conceivably have infinite consistency. In total, these 1,312 brands have 4,957 unique brand-Type combinations, which are the basis for the analysis.

[Insert Figure 3 about here]

The variables in the above model were measured in the following manner:

SHARE was computed by summing the Type volume share for each product within a brand. Type volume share is taken from the database. It tracks the percentage of total volume sold within a Type that comes from each product. The sum for all the products within a brand under a given Type is the brand's total SHARE.

DIST is brand distance, the measure of how spread out a brand is among types, categories, and majors. The higher the DIST, the lower the brand's consistency. Using the levels of categorization present in the data of Major, Category, and Type, the data is organized as a tree structure, with a common root (that is, all products are sold in stores). Figures 1 and 2 provide an illustration of this structure.

The first split is into Majors, then Categories, then Types. Each product therefore has a place at a node at the bottom of this tree. The distance between two instances of a brand can be computed based on their relative positions within the tree, using their LCA, or Lowest Common Ancestor. For brands having multiple occurrences in the data, the distance between each pair can be computed. From this, for each occurrence of the brand, an average distance from that occurrence to all other occurrences can be found. This average for each focal brand is DIST, the measure of a brand's spread across categories, and thus its degree of *inconsistency*.

This measure has the advantage of assigning higher spreads to brands that are deployed across multiple Majors or Categories than those deployed across different Types within the same Category. A more simplistic count of the number of types a brand

is sold in would not accomplish this. TYPES measures just this, and is included as a control variable.

LOYALTY is a brand's share of sub category(Type) requirements. This tracks of those that purchased within the category, the percentage of that customer's total Type purchase that came from the brand. This data point is taken directly from the dataset.

PPV is price per volume. A brand's PPV is computed by taking a weighted average by market share of the price of each of the products that are sold under a brand in a given Type. This average is then indexed by diving by the average price within that Type, to give a relative measure of price.

POVPR is percent of volume sold on price reduction. Similar to price, this is also computed as a weighted average by market share indexed to the average of the category.

POVOAD is percent of volume sold on any deal (including price reduction), and is computed in the same manner as POVPR.

OCCUR is the count of the total number of products sold under the brand name across all categories.

VARIANTS is the count of the total number of products sold under the brand name in the same Type.

OCCASIONS is the average number of occasions on which a customer buys a product, for those that have purchased the product. The weighted average by market share is taken of all the products being sold under a brand within a given Type, then indexed to the Type average to get the final measure of OCCASIONS for the brand.

POVPRCONSIST takes the POVPR measure and divides it by the average POVPR measure for all unique brand-Type combinations within the brand family across

all categories, or takes the inverse if this is greater than 1. This results in a measure of consistency where 1 = perfectly consistent with other occurrences of the brand, and the further from 1 the measure is, the less consistent the brand is with regard to percent of volume sold on price reduction. The remaining measures of consistency, POVOADCONSIST and PPVCONSIST, are measured in the same fashion using POVOAD and PPV, respectively.

5. Results

Table 3 shows descriptive statistics, and Table 4 contains correlations for the data. The highest correlations with market share are LOYALTY and OCCASIONS, two of the control variables. DIST has a negative correlation with SHARE, while the other three consistency variables have positive correlations, as would be expected given the hypothesis developed above.

[Insert Tables 3 and 4 about here]

Regressing a brand's market share on the explanatory variables above provided some support for the hypotheses. The parameter estimates are provided in Table 5. The coefficient estimate for DIST was negative and significant at the $p<.0001$ level, indicating that higher DIST (i.e. lower consistency) is associated with lower market share.

[Insert Table 5 about here]

PPVCONSIST had a positive relationship and was also found to be significant, at the $p<.0003$ level, supporting the second hypothesis that higher consistency in price is associated with higher marker share.

For the third hypothesis concerning consistency in promotion, results were mixed. Both measures, POVPRCONSIST and POVOADCONSIST, were found to be significant, at the $p<.0001$ level and $p<.005$ level, respectively. However, the coefficient for consistency in price reduction only promotions was found to be positive, as theorized, while that for consistency in any promotions deal was negative, with the magnitude of the consistency in price reduction being larger.

When the model was run without POVOADCONSIST, POVPRCONSIST remained positive and significant (no change in significance or direction of effect). When the model was run without POVPRCONSIST, POVOADCONSIST was estimated to have a positive coefficient, though was no longer sufficient.

The only variable not found to be significant in the original model was TYPES, a control variable for the number of different Types the brand is sold in. When the model was run excluding the TYPES variable, all remaining variables were still significant, in the same direction, at very similar magnitudes.

The model for interaction effects produced significant estimates for the same main effects noted above, while also providing support for interaction. The results follow a similar pattern as was observed for the main effects of price and promotion consistency. Price consistency interaction was significant ($p<.0001$) and negative. Both promotions interaction measures were negative but insignificant when both were in the model, though running the model without the percent sold on any deal promotion interaction measure yielded a negative and significant ($p<.05$) interaction for price reduction promotions.

[Insert Tables 6 and 7 about here]

6. Discussion

Results are overall supportive of the theorized positive main effect of a brand's consistency on its market share. Findings demonstrate that there are multiple ways in which a brand's consistency can affect market share, including the selection of which categories to compete in, the relative pricing in each of those categories, and the relative promotional emphasis the products receive. Furthermore, there is significant interaction between the forms of consistency. If a brand is not consistent in the selection of categories it competes in, the positive effects of being consistent in other ways are mitigated. In the case of price consistency, the magnitudes of the main and interaction effects show that the positive effect of being consistent in price vanishes in the presence of inconsistency in category selection. This could be viewed as the consistency of consistency. These findings are summarized in Table 8.

[Insert Table 8 about here]

While the two measures of consistency in promotional emphasis were found to have main effects in opposite directions, this was only the case when both were present in the model. The magnitudes of the coefficients show that the net effect of the two was positive, as hypothesized. Furthermore, only the positive relationship of the first held when the other was eliminated from the model. This suggests that all promotional consistencies are not created equal. In this study, only the promotional consistency measure related to price promotions was significant, an interesting result worthy of further exploration given that the price consistency was also found to be significant itself.

Further research may aim to investigate this aspect of consistency more closely, as well as the relationship between consistency in price and promotion.

Lastly, the interaction effect between consistency in selection of categories and consistency in price was unambiguously significant, while only the interaction with percent sold on price reduction was significant of the two promotion interaction measures. Taken together with the results from the main effect model, it seems promotion does have both a main effect and interaction effect, but the type of promotion is not trivial.

The concept of consistency in a brand's deployment, shown here to have merit, remains an interesting avenue for exploration. Questions remain about the true nature of consistency in promotion. Further research on brand consistency may consider the role of flagship products, or how additional category characteristics could be related to consistency.

References

Aaker, David A. (1982), "Positioning Your Product," Business Horizons, 25 (May/June), 56-62.

Aaker, David A. and Kevin Lane Keller (1990), “Consumer Evaluations of Brand Extensions,” Journal of Marketing, 54 (January) 27-41.

Aaker, Jennifer L., Susan M. Fournier, and S. A. Brasel (2004), “When Good Brands do Bad,” Journal of Consumer Research, 31 (June), 1-16.

Armstrong, Gary, and Philip Kotler (2005), Marketing: An Introduction. Upper Saddle River, New Jersey: Pearson Education, Inc.

Bolton, Ruth N. (1989), “The Relationship between Market Characteristics and Promotional Price Elasticities,” Marketing Science, 8 (Spring), 153-169.

Bowman, Douglas and Hubert Gatignon (1995), “Order of Entry as a Moderator of the Effect of Marketing Mix on Market Share,” Marketing Science, 15(3), 222-42.

Fader, Peter S. and Leonard M. Lodish (1990), "A Cross-Category Analysis of Category Structure and Promotional Activity for Grocery Products," Journal of Marketing, 54 (October), 52-65.

Jap, Sandy D. (1993), “An Examination of the Effects of Multiple Brand Extensions on the Brand Concept,” Advances in Consumer Research, 20, 607-611.

Keller, Kevin L. (1993), “Conceptualizing, Measuring, and Managing Customer-Based Brand Equity,” Journal of Marketing, 57 (1), 1-22.

Keller, Kevin L. and David A. Aaker (1992), “The Effects of Sequential Introduction of Brand Extensions,” Journal of Marketing Research, 29 (May) 35-50.

Keller, Kevin L. and Donald R. Lehmann (2006), “Brands and Branding: Research Findings and Future Priorities,” Marketing Science, 25 (6), 740–59.

Morgan, Neil A. and L. L. Rego (2009), "Brand Portfolio Strategy and Firm Performance," Journal of Marketing, 73 (1), 59-74.

Narasimhan, Chakravarthi, Scott A. Neslin and Subrata K. Sen (1996), “Promotional Elasticities and Category Characteristics,” Journal of Marketing, 60 (April), 17-30.

Park, C. Whan, Bernard J. Jaworski and Deborah J. Maclnnis (1986), “Strategic Brand Concept-Image Management,” Journal of Marketing, 50 (4), 135-145.

Park, C. Whan, Sandra Milberg and Robert Lawson (1991), “Evaluation of Brand Extensions: The Role of Product Feature Similarity and Brand Concept Consistency,” Journal of Consumer Research, 18 (2), 185-193.

Rao, Vithala R., Manoj K. Agarwal and Denise Dahlhoff (2004), “How Is Manifest Branding Strategy Related to the Intangible Value of a Corporation?” Journal of Marketing, 68 (October), 126–41.

Slotegraaf, Rebecca J., Christine Moorman and J. Jeffrey Inman (2003), “The Role of Firm Resources in Returns to Market Deployment,” Journal of Marketing Research, 40 (3), 295-309.

Figure 1

Structure of Data

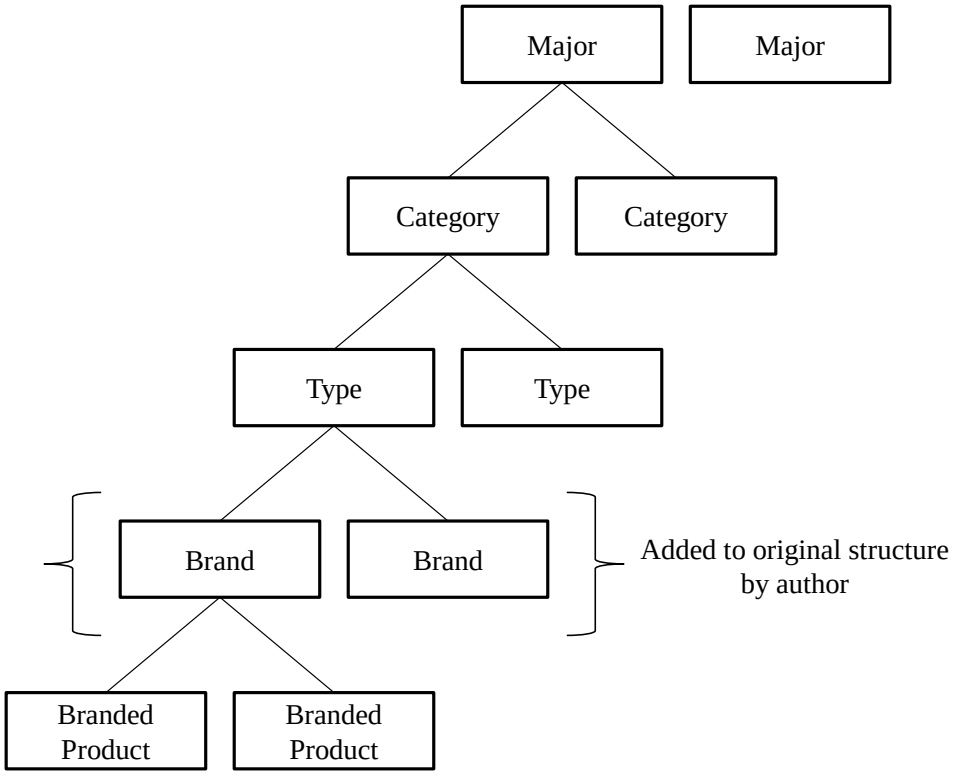

Figure 2

Data Structure Example

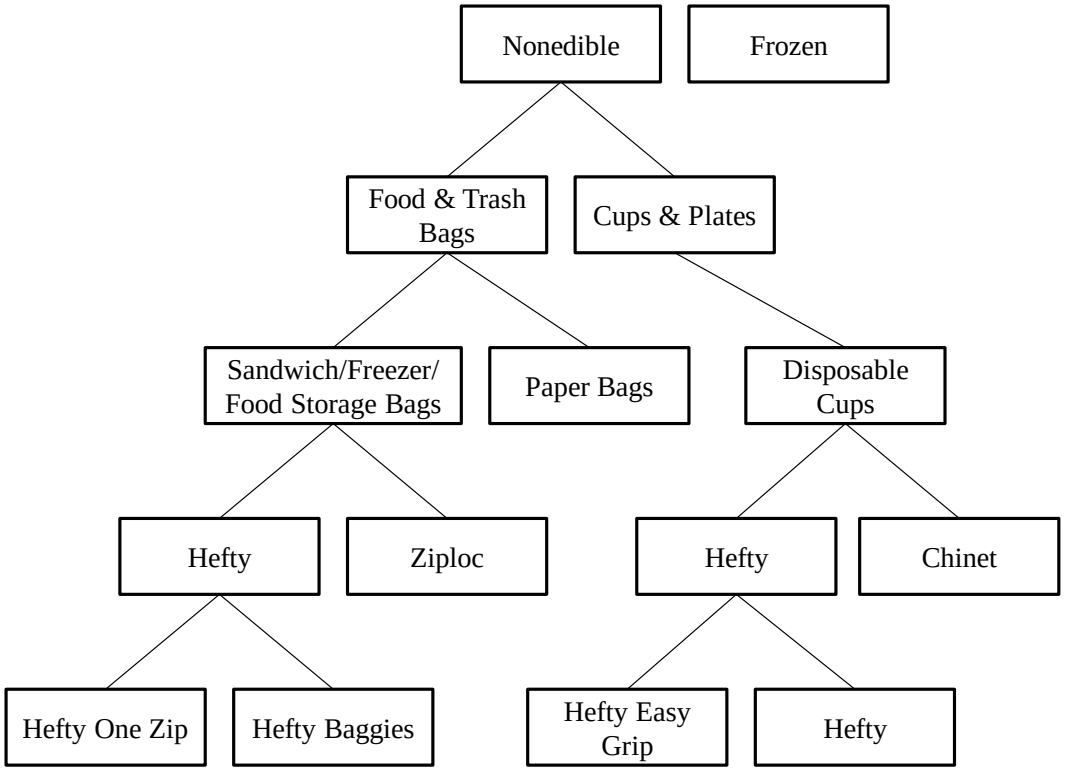

Table 1

Data Structure Summary Counts

Number of Unique:

Majors	8
Categories	292
Types	841
Brands	3,774
Brand-Type Combinations	7,419
Products (ie. Brand Variations)	11,077

*omits conglomerate brands such as

“nobrand” and “generic”

Table 2

Brand Dispersion Summary Counts

Number of Brands in:

Single Major	3,458
Multiple Majors	316
Single Category	2,828
Multiple Categories	946
Single Type	2462
Multiple Types	1,312
Total	3,774

Figure 3

Count of Brands by Number of Types They Are Present In

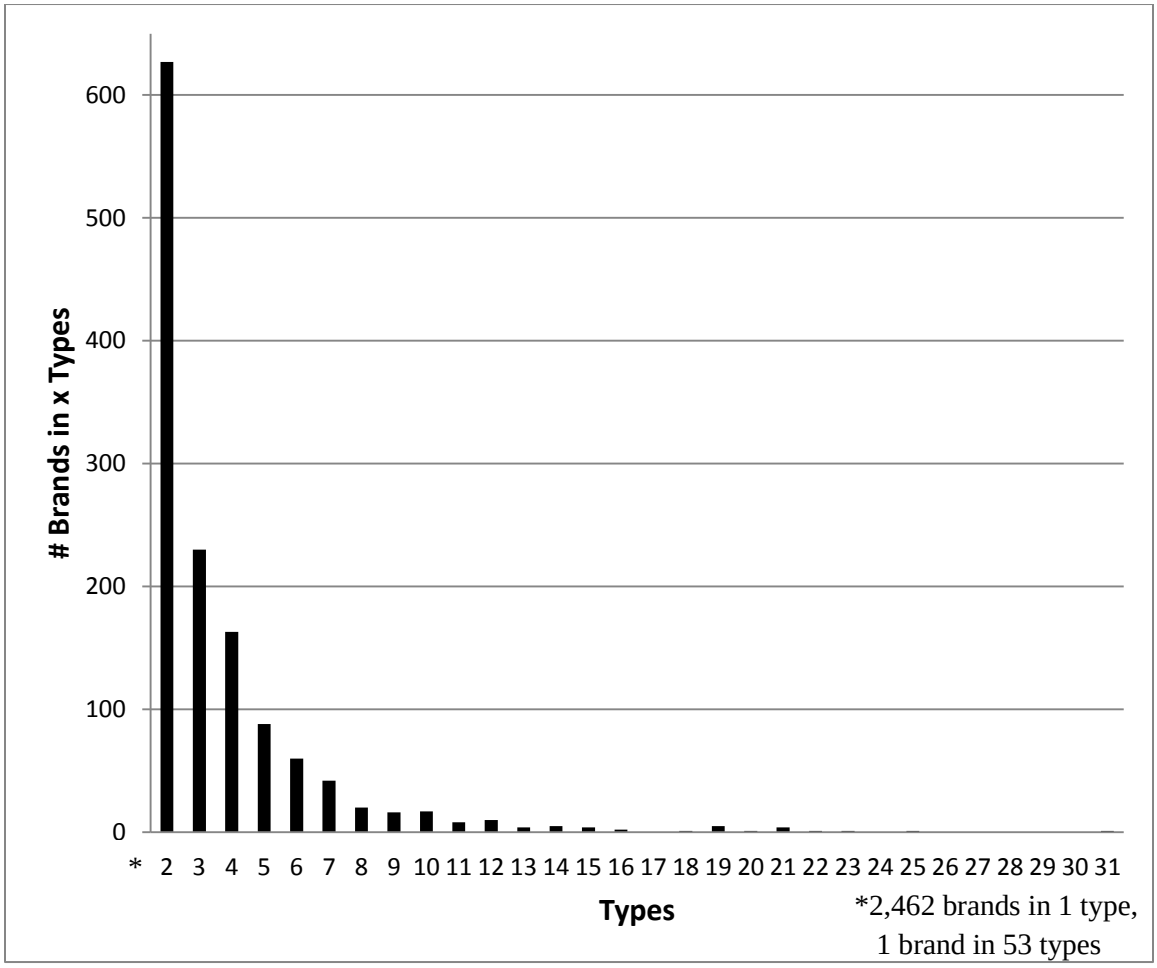

Table 3

Summary Statistics

Variable	Short Description	min	max	median	mean	std	sk
SHARE	Sub Category Volume Share	.00	1.00	.02	.08	.14	2.91
LOYALTY	Sub Category Volume Loyalty	.01	1.00	.34	.38	.22	.65
PPV	Price per Volume (Indexed to Type avg)	.06	78.61	1.06	1.31	1.60	27.20
POVPR	% Volume on price reduction only (Index)	.00	8.57	1.00	1.05	.69	1.75
POVOAD	% Volume on any deal (Index)	.00	5.50	.97	.98	.53	1.18
OCCASIONS	Purchase Occasions per Buyer (Index)	.10	2.16	.57	.58	.22	.34
DIST	Average Distance to other Brand Occurrences*	2.29	8.00	5.88	5.54	1.27	.04
OCCUR	Number of Brand Occurrences	2.00	116.00	6.00	12.41	18.41	3.42
TYPES	Number of Types Brand is sold in	2.00	53.00	4.00	6.67	7.14	3.60
VARIANTS	Number of products in Type of same Brand	1.00	49.00	1.00	1.65	2.11	9.34
POVPRCONSIST	% Volume on price reduction consistency*	.00	1.00	.77	.71	.23	-1.08
POVOADCONSIST	% Volume on any deal consistency*	.00	1.00	.80	.75	.20	-1.25
PPVCONSIST	Price per Volume consistency*	.01	1.00	.79	.74	.20	-.98

N=4957

*measures of consistency

Table 4

Correlations

	Variable	std	1	2	3	4	5	6	7	8	9	10	11	12
1	SHARE	1.72												
2	LOYALTY	.68	.62											
3	PPV	.51	-.28	-.32										
4	POVPR	1.84	.13	-.04	.09									
5	POVOAD	1.31	.18	.02	.03	.77								
6	OCCASIONS	.43	.65	.83	-.10	-.01	.04							
7	DIST*	.24	-.13	.11	.04	-.03	-.03	.05						
8	OCCUR	1.00	.32	.04	.02	.12	.10	.10	.20					
9	TYPES	.76	.20	.08	.02	.09	.06	.10	.33	.89				
10	VARIANTS	.54	.41	-.18	-.01	.12	.12	-.05	-.34	.41	.15			
11	POVPRCONSIST*	1.48	.12	-.05	.04	.82	.47	-.02	-.08	.05	.03	.12		
12	POVOADCONSIST*	.93	.13	-.02	.01	.55	.72	.00	-.08	.02	.00	.12	.62	
13	PPVCONSIST*	.39	.07	.02	-.11	.11	.05	-.06	-.08	.12	.14	.06	.11	.07

N=4957

*measures of consistency

Table 5

Parameter Estimates for Main Effect Model

Parameter	Estimate	SE	t Value	Pr > |t|
LOYALTY	1.054	.041	25.98	<.0001
PPV	-.343	.030	-11.43	<.0001
POVPR	-.074	.028	-2.6	0.0095
POVOAD	.196	.032	6.09	<.0001
OCCASIONS	1.291	.061	21.12	<.0001
DIST*	-1.347	.027	-49.92	<.0001
OCCUR	.251	.039	6.42	<.0001
TYPES	-.058	.048	-1.21	0.2245
VARIANTS	1.122	.034	32.99	<.0001
POVPRCONSIST*	.133	.028	4.7	<.0001
POVOADCONSIST*	-.092	.033	-2.81	0.005
PPVCONSIST*	.132	.037	3.61	0.0003

*measures of consistency

Table 6

Parameter Estimates for Interaction Model

Parameter	Estimate	SE	t Value	Pr > |t|
LOYALTY	1.024	.041	25.25	<.0001
PPV	-.359	.030	-11.97	<.0001
POVPR	-.078	.029	-2.71	0.0067
POVOAD	.200	.033	6.13	<.0001
OCCASIONS	1.317	.061	21.61	<.0001
DIST*	-1.366	.027	-50.63	<.0001
OCCUR	.235	.039	6.04	<.0001
TYPES	-.042	.048	-0.87	0.3849
VARIANTS	1.169	.035	33.87	<.0001
POVPRCONSIST*	.164	.031	5.25	<.0001
POVOADCONSIST*	-.099	.036	-2.76	0.0058
PPVCONSIST*	.364	.053	6.89	<.0001
POVPRCONSISTI*	-.033	.025	-1.3	0.1928
POVOADCONSISTI*	-.016	.038	-0.42	0.6742
PPVCONSISTI*	-.360	.060	-6.04	<.0001

*measures of consistency

Table 7

Parameter Estimates for Reduced Interaction Model

Parameter	Estimate	SE	t Value	Pr > |t|
LOYALTY	1.024	.041	25.25	<.0001
PPV	-.359	.030	-11.97	<.0001
POVPR	-.076	.028	-2.69	0.0072
POVOAD	.198	.032	6.16	<.0001
OCCASIONS	1.317	.061	21.62	<.0001
DIST*	-1.365	.027	-50.64	<.0001
OCCUR	.235	.039	6.04	<.0001
TYPES	-.042	.048	-0.87	0.3851
VARIANTS	1.169	.035	33.87	<.0001
POVPRCONSIST*	.166	.031	5.38	<.0001
POVOADCONSIST*	-.105	.033	-3.2	0.0014
PPVCONSIST*	.366	.053	6.94	<.0001
POVPRCONSISTI*	-.040	.019	-2.08	0.0375
PPVCONSISTI*	-.362	.059	-6.11	<.0001

*measures of consistency

Table 8

Results Summary

Dimension of Consistency	Hypothesized direction of effect on market share	Variable	Estimated direction of effect
Category selection	-	DIST	-
Price	+	PPVCONSIST	+
Promotion	+	POVPRCONSIST	+
	+	POVOADCONSIST	not significant alone
Price interaction	-	PPVCONSIST*DDIST	-
Promotion interaction	-	POVPRCONSIST*DDIST	-
	-	POVOADCONSIST*DDIST	not significant