2014

How Consumers' Use of Brand vs. Attribute Information

Randle D. Raggio
University of Richmond, rraggio@richmond.edu

Robert P. Leone

William C. Black

How Consumers' Use of Brand vs. Attribute Information Evolves over Time

ABSTRACT

Prior research has identified that brands have a differential impact on consumer evaluations across various brand benefits. But no work has considered whether these effects are stable over time, or evolve in a consistent way. We address this question by decomposing consumer evaluations of brand benefits into overall brand and detailed attribute-specific sources in order to understand whether brand effects remain stable or evolve over time. With two unique datasets, the first containing cross-sectional data from Kodak across four different consumer goods categories, and another longitudinal dataset from the U.S. and Canada in the surface-cleaning category, covering seven brands over five years, we demonstrate a systematic evolution in brand effects: A general trend is that over time and with experience consumers rely more heavily on overall brand information to develop their evaluations. However, early in a brand's life, or later when circumstances compel consumers to actively consider the attributes, ingredients or features of a brand, consumers may rely more heavily on detailed attribute-specific information to evaluate brand-benefits. Implications for brand management are discussed.

Keywords: evolving brand effects, brand ratings decomposition, brand management, brand communications

1. INTRODUCTION

Both marketing researchers and brand managers want to better understand the ways that brands impact consumer evaluations of branded offerings. Dillon *et al* (2001) introduced an approach for decomposing brand ratings into two sources: overall brand information and detailed attribute information. They demonstrate that when consumers provide "brand ratings" (i.e., evaluations of the benefits provided by branded offerings), their evaluations are impacted by *both* of these sources. Raggio, *et al* (2014) extend Dillon *et al*'s work to demonstrate that "brand," or the brand source, has a differential impact across benefits for (within) a brand. For example, the brand Porsche may impact evaluations of a vehicle's acceleration to a different extent than it does evaluations of a vehicle's safety or styling. The implication is that since the Porsche brand is positioned strongly on benefits related to performance, consumers would rely more heavily on overall brand information to evaluate acceleration, but rely more heavily on detailed attribute information (i.e., ingredients, recipes, formulas, features, or attributes of a brand) to evaluate other benefits, such as safety. But no prior work has yet investigated how the relative use of these two sources of information may change over time. Our research question is whether consumers' relative use of the two sources is fixed over time, or whether a systematic evolution in their relative use exists. That is, over time and with experience, are consumers more likely to rely more heavily on overall brand or detailed attribute-specific information? This is an important question, because brand managers want to know (1) the right "mix" of overall brand information and detailed attribute-specific information to convey in advertising, and (2) whether their positioning efforts are working—i.e., whether consumers are comfortable relying on overall brand information without having to evaluate all the specific attributes of an offering. If brand management is effective, then the answers to these questions should change over time.

Dillon and colleagues (2001, p. 429) speculate that, "for the nascent user, brand communications first work through high-level brand sources…and then, with additional experience of a direct brand-usage nature, 'transform' into detailed attribute sources." No other research has addressed this issue of evolving brand effects; the literature contains only this speculation of a directional evolution. We also expect a systematic evolution does indeed exist, but in the direction opposite of that proposed by Dillon *et al* (2001); i.e., that consumers rely relatively more heavily on overall brand information over time and with experience. In this paper, we provide reasoning for our contrary hypothesis and then evaluate data from two unique datasets to test these competing views.

As expected, our research produces evidence of "evolving brand effects." Generally, with time and experience consumers rely more heavily on overall brand information. But early in a brand's life, or later when consumers are compelled to actively consider the attributes, ingredients or features of a brand, consumers rely more heavily on detailed attribute-specific information. This finding is consistent with brand development approaches that assume brands must be built over time by the development of meaningful associations (e.g., Keller, 2008).

The primary contribution of this paper is that we demonstrate the ability to track both the systematic evolution and short-term reactionary changes in consumers' relative use of mental sources of information (i.e., brand vs. attribute), which helps brand managers actively balance their communications emphasis on detailed attribute-specific information or overall brand information as the situation may dictate, and evaluate the effectiveness of their positioning strategies. In the following sections, we first discuss the conceptual foundations of our approach and how we seek to answer our research question. The approach is then applied to two unique datasets. The first covers a single iconic company brand that produces consumer offerings in

four different categories. The second explores a longitudinal dataset including seven consumer brands over five years in two countries to demonstrate the evolution of brand effects over time.

2. LITERATURE REVIEW

2.1 Two Mental Sources of Brand Ratings

Dillon *et al* (2001, p. 415) "use the term 'brand rating' to refer to the judgment of the level of a brand on one or more attribute or benefit statements; that is, a consumer's perceived performance of a brand on an attribute." For example, "Rate the degree to which you believe the following [toothpaste] brands whiten teeth," followed by a list of brands and (e.g.) a 7-point rating scale for each brand. (We note that their use of the word "brand" in this context should be understood to mean "branded offering.") They find that although consumer brand ratings are collected at the specific benefit level (e.g., whitening) they are highly correlated with a brand's market position and are consistent with a global brand evaluation. In sum, raw brand ratings simply reflect overall favorability but do not reveal the source of consumer brand beliefs.

Their approach decomposes brand ratings into two sources: general brand impressions (GBI) and brand-specific associations (BSA). GBIs represent an overall or global brand impression. BSAs reflect the "truer impression of the actual performance of the brand on an attribute" (Dillon, *et al*, 2001, p. 418). As their purpose was to provide a way to remove bias from brand ratings, their goal was to disentangle GBIs from BSAs.

Apart from the work of Dillon, *et al* (2001) there is significant support for both the *existence* and *use* of these two mental sources of information. Lynch & Srull (1982) demonstrate that consumer evaluations are impacted both by the information that is stored in memory and how it is retrieved. Activation and retrieval of brand-related information in memory can be triggered either by high-level associations with the brand, or lower-level associations with the

product and/or the category (Boush and Loken 1991; Keller 1993), suggesting that consumers will rely on different portions of the information stored in memory based on what information is activated and retrieved. High-level brand information represents the "brand source," while detailed attribute-level information represents the "attribute source."

We note that our research does not address *how* brand-related information (brand- or attribute-level) is actually encoded and stored. In a brand context, research has focused on several cognitive processes that reflect how consumers create the associations for both the brand and product attributes (Van Osselaer and Janiszewski 2001). Those processes lead to the *existence* of the sources that are the focus of our investigation. Rather, we seek to understand the *use* of those sources.

2.2 Differential Brand Effects

Since its publication, Dillon, *et al*'s (2001) approach has been adopted widely in the marketing literature (e.g., Batra, *et al*, 2010; Madden, *et al*, 2012; Sonnier and Ainslie, 2011). However, Raggio, *et al* (2014) recognized that the original approach did not allow for unique GBIs across brand benefits. Rather, Dillon, *et al*'s model identified a general brand effect (similar to a halo effect) in brand ratings, but because it contained a single parameter for the GBI for a brand across all benefits, it could not tell a brand manager whether a brand was strongly positioned in consumers' minds on a *particular* benefit. Unfortunately, this approach was adopted by many others in the marketing literature (e.g., Batra, Lenk & Wedel, 2010; Bloemer, Brijs, & Kasper, 2009; Dillon, et al., 2001; Gilbride, Yang & Allenby, 2005; Madden, Roth & Dillon, 2012; Sonnier & Ainslie, 2011). In response to this limitation, Raggio, *et al* (2014) introduced a model that allowed for unique "brand effects" (i.e., brand→benefit loadings). Analysis of such brand effects would reveal the extent to which consumers relied on overall

brand information vs. detailed attribute-specific information to provide *specific* brand ratings. Their results confirmed the existence of what they termed "differential brand effects" in eight of nine global product markets tested, covering 55 branded offerings. Their conclusion was that "researchers should no longer rely on models with a single variable intended to capture a uniform or equal effect of 'brand;' instead, future models should accommodate differential effects" (Raggio, *et al*, 2014). While this was a significant step forward, their analysis of cross-sectional data did not allow them to investigate whether brand effects were stationary or evolving over time.

2.3 Theoretical Support for Evolving Brand Effects

Three streams of literature demonstrate the existence and use of the two mental sources of information and suggest the potential for an *evolving* use of different sources of brand information over time. First, the spreading activation model (Anderson, 1983), suggests that memory is stored in nodes and connected via paths of varying strength. Retrieval is a function of "the frequency and recency with which it has been used in the past" (Wyer and Radvansky 1999, p. 92). Paths that represent strong links (stronger association) have a higher probability of activation than paths with weaker links (weaker association). In addition, over time consumers tend to create an overall or summary evaluation of brands (Sujan, 1985) that may serve as a shortcut for evaluations of multiple brand benefits. For example, "I like Crest" can become "Crest whitens my teeth and prevents plaque and freshens my breath, etc." if consumers do not actively process the detailed attribute information related to the benefit in question. This type of summary evaluation represents the bias that Dillon and colleagues (2001) sought to remove from brand ratings. Nevertheless, as consumers gain more experience with brands and brand associations grow, certain paths related to their experience will grow stronger, resulting in a

changing reliance on different nodes (i.e., different mental sources of information) over time.

Second, the categorization literature suggests that when categorization is difficult, consumers will use a piecemeal processing of information to determine category. Such processing is consistent with reliance on detailed attribute information. However, when categorization is easy, then category affect (i.e., the brand effect) is transferred immediately to the object (Loken, 2006), consistent with reliance on overall brand information. Together, these two types of processing (piecemeal vs. category affect), which depend on category knowledge, suggest a varying reliance on sources of information over time as category knowledge changes.

Finally, the brand extension literature focuses on "fit" and parallels the logic of the categorization literature. When fit is not easily determined at the brand level, then piecemeal evaluations are made based on specific attributes (Meyvis & Janiszewski, 2004). Consistent with our discussion of the categorization literature, the type of processing, and thus the type of information required, changes based on brand familiarity, again suggesting varying reliance on the different sources of information. Although this review does not suggest the direction of evolution, it does reveal that prior theory and results support the general expectation that brand effects indeed change over time.

2.4 Brand-Benefit Beliefs

We adopt Raggio, *et al*'s (2014) definition of "brand-benefit belief" as the consumer's belief about the degree to which (or whether) a brand provides a specific benefit. A collection of brand-benefit beliefs is termed "brand beliefs" (analogous to "brand ratings" in Dillon, *et al*'s [2001] terminology). As an example, consumers may be asked questions about the performance benefits (e.g., smooth, creamy, easy, etc.) of a particular Kraft offering (e.g., Kraft singles, Kraft Macaroni and Cheese, Kraft Mayo, etc.) within a specified category (e.g., cheese, meals,

dressings, etc.). We focus on "benefits" rather than "attributes" to distinguish between the benefit *questions* on a survey and the mental *source* of attribute information that may help them provide their brand-benefit beliefs, and note that specific product attributes may *contribute to, give rise to, or provide*, particular benefit(s) (Hutchinson & Alba, 1991). Therefore, knowledge of specific brand attributes can help consumers evaluate brand benefits. Although the preceding discussion has been focused on discriminating between the brand and attribute sources, we emphasize that *both* sources of information (brand, attribute), *in combination*, are used to provide brand beliefs. It is the relative use of those sources, and how that use changes over time, that is the focus of this paper.

3. OPERATIONALIZING THE SOURCES OF BRAND BELIEFS

Using the procedure introduced by Raggio, *et al* (2014) to allow for differential brand effects, we empirically address the issue of evolving brand effects by decomposing brand-benefit beliefs from two relevant datasets. We next describe the conceptual framework and the empirical model.

3.1 Conceptual Framework

Based on the literature review above, we recognize that consumer brand beliefs come from two mental sources: one related to overall brand information (the *brand source*) and the other to detailed attribute-specific information (the *attribute source*). Figure 1 provides an overview of the conceptual model based on three benefits for two brands. The rectangles represent consumers' brand-benefit beliefs – i.e., the responses that consumers give on surveys, which is the input to the model.

[Insert Figure 1 Here]

Continuing with the Kraft example, in the shredded cheese category, consumers may be asked for their beliefs about whether (or to what extent) a brand (branded offering) provides the benefits of convenience, good flavor, and easy melting. These beliefs can be measured in multiple ways, ranging from metric ratings to the "checks" that consumers provide in a "pick any" task. Our goal is to decompose these beliefs into the two sources and then to evaluate the relative use of the two sources over time. We emphasize that the theoretical justification for identifying the different mental sources is agnostic to the type of data collected (e.g, 7-point, pick-any, yes/no, etc.), although different methodologies may be required to convert the raw data into an input correlation matrix. Likewise, our procedure is also agnostic to the type of data collected, as it begins *after* an input correlation matrix has been produced, not with raw data.

In Figure 1, the top ovals represent the latent brand source for each brand. The brand source contains the highest-level (i.e., top-of-mind) and/or most easily accessible overall brand associations in memory (Punj & Hillyer, 2004). The brand source may be composed of either a "rolled-up" or summary evaluation (e.g., Sujan, 1985) or an overall association built over time through effective positioning (e.g., Volvo and "safety"). As such, it impacts all brand-benefit beliefs; but, as Raggio, *et al* (2014) demonstrate, the brand source impacts each brand-benefit belief uniquely, justifying the inclusion and estimation of separate βs.

The bottom ovals represent the latent attribute source for each benefit. The attribute source contains the mental network of detailed product and category knowledge that applies to the benefit in question. The attribute source contains the ingredients, recipes, formulations, attributes or features *that give rise to* particular benefits, such as the ingredient bleach providing the benefit of whitening, or whole grains, antioxidants, prebiotics and organic ingredients, *in combination*, providing the benefit of "healthy". Note that the benefit that consumers are asked to evaluate (e.g., whitening) is distinct from the attribute(s) or ingredient(s) which may *give rise*

to the benefit (e.g., bleach), and multiple attributes or ingredients may work together to deliver a benefit (e.g., in the case of "healthy").

Continuing with the laundry detergent example, we are interested in how much of a consumer's evaluation of a brand on, say, softening comes from overall brand information, vs. how much of his or her evaluation comes from a thoughtful consideration of the ingredients or other attributes of the brand that would give rise to the softening benefit (e.g., the inclusion of Downy as an ingredient, as in Tide with Downy). Further, for a particular brand over time we are interested in whether the brand and attribute sources have a stable impact on evaluations of the various benefits, or whether the impact of the two sources changes over time (i.e., an evolving effect).

3.2 Capturing the Effects of the Brand and Attribute Sources

Consumer reliance on the brand source versus the attribute source is represented by the brand→benefit loadings (β) and attribute→benefit loadings (α) in Figure 1. Higher reliance on overall brand information to evaluate benefits should result in larger brand→benefit loadings (β) than in situations where consumers devote more cognitive resources to consider the attributes, ingredients or features of a brand to evaluate benefits, which would produce larger attribute→benefit loadings (α). Comparing these loadings over time for specific benefits or even as an average across all benefits for a brand will allow us to determine whether stable or evolving effects are present in real market data.

3.3 The Model

It is important that brand and attribute sources be uncorrelated in the model, as a model with correlated sources would not be able to identify unique effects of brand or attribute information. Each latent attribute source (bottom oval in Figure 1) represents the specific *portion*

of a respondent's mental network that includes the attribute information related to the benefit in question. However, particular information "nodes" may be present in multiple attribute sources,as attribute information that is relevant for evaluating a benefit may be related to more than one benefit (e.g., salt content [attribute] is conceptually related to both taste and health benefits). As a result, attribute sources are correlated in the model.

Brand sources (top ovals in Figure 1), on the other hand, are not correlated as identification of a unique solution is a known problem for models with correlated brand sources (see Marsh 1989). Fortunately, this approach reflects what is found in the marketplace, as brands are expected to develop unique identities. However, multiple branded offerings may exist in the same category under a single family brand. Raggio, *et al* (2014) find that the brand sources for offerings within a particular brand family are highly correlated, but are not correlated with offerings from other brand families, demonstrating that this approach is appropriate in all markets, whether or not multiple offerings under family brands are present.

3.3.1 Model Estimation

The proposed model is estimated through a model similar to the standard CFA form:

$$\Sigma = \Lambda_B \Phi_B \Lambda'_B + \Lambda_A \Phi_A \Lambda'_A + \Psi, \quad (1)$$

where Σ is the ab × ab correlation matrix of brand beliefs for a attributes and b brands, Λ_B is the brand source loading matrix (Λ_A for attributes), Φ_B is the brand source correlation matrix (Φ_A for attributes), and Ψ is the random error component (unique variances in factor analysis). The distinction from a standard CFA model is that brand and attribute sources are distinct (i.e., not correlated) to allow for different relationships among brands or attributes. The estimation procedure provides the parameter values for the paths between the brand or attribute

source (ovals) and the consumer brand ratings (rectangles), that is, brand→benefit loadings (β) and attribute→benefit loadings (α) as shown in Figure 1.

5. BRAND AND ATTRIBUTE SOURCES EVOLUTION

As presented in the introduction, Dillon and colleagues (2001, p. 429) predict that early in a brand's life, consumers will rely more heavily on the brand source, but with time and experience evolve to rely more heavily on the attribute source. However, we expect that an evolution in the opposite direction is more likely. Consider the introduction of the Swiffer brand. At first, consumers would want answers to three questions (What is it? What does it do for me? Why should I care?) in an attempt to categorize the product (i.e., as a broom, a sweeper, a mop, a duster, etc.) and know how it would benefit them. At first, the name Swiffer would have very little impact on consumers' evaluation of the brand. But as consumers gain experience, hear about it from friends, etc., they may be willing to trust that any offering under the Swiffer brand will be affordably effective at cleaning. Therefore, we suggest that the "transformation" works in the opposite direction of that proposed by Dillon, et al. (2001).

Our theorizing regarding consumers' use of brand versus attribute sources over time is based on the observation that consumers' use of detailed attribute-specific information initially is driven by attempts to answer questions such as those presented above, while use of overall brand information is more indicative of relying on the brand's promise of benefits without needing to get into the details. It is reasonable that consumers would start with more questions, and then with time and experience develop trust in a brand's promise of benefits. This would especially be true in the case of new brands providing new-to-the-world products. This theorizing is consistent with brand development approaches that assume that brand resonance (the highest

level in Keller's 2008 CBBE pyramid) must be built over time by the development of meaningful associations.

However, there may be times where consumers would rely more heavily on one source relative to the other, and such changing reliance should be reflected in the brand→benefit vs. attribute→benefit loadings. For example, situations that cause consumers to abandon habit or inertia (e.g., moving to a new city or shopping in a new store, the introduction and promotion of new competitive brands, etc.), or any situation that disrupts normal buying behavior and compels consumers to evaluate the attributes, ingredients or features of an offering may result in a higher reliance on the attribute source. Although such "reversals" may occur at particular periods of time, we expect a general evolution toward a higher reliance on the brand source over time for brands under effective brand management.

In the following sections we evaluate data from two sources to provide evidence for our theory: (1) cross-sectional data from Kodak's consumer products division and (2) longitudinal data from the surface-cleaning category of a global consumer packaged goods (CPG) firm. We begin with the Kodak analysis. The benefit of the Kodak data is that it covers non-CPG categories and allows for evaluation of a single brand over multiple categories, providing insight for managers considering brand extensions.

5.1 Kodak example

Kodak asks consumers 14 questions related to their relationships with every brand in all the categories in which it competes. Data are collected on surveys in a pick-any format. Representative questions ask about ease of use, innovation, design, and brand trust, among others (unfortunately, due to confidentiality restrictions, we are not able to publish the exact questions). We analyze data from the film, digital cameras, traditional still cameras, and inkjet printer

categories using the procedure described previously. Unfortunately, Kodak is the only brand represented in all four categories. However, a benefit of using the Kodak data is that the brand name "Kodak" is consistently used in each category (i.e., a family brand strategy) and the same questions are asked consistently in all categories, making direct comparison possible. We used a procedure specifically for binary data developed by Edwards & Allenby (2003) to produce the input correlation matrix. The Edwards & Allenby approach is demonstrated to have superior properties over other approaches for analyzing binary data, but other procedures appropriate for binary data (e.g., Polychoric correlation) could be applied. The data were analyzed in AMOS 19. Fit statistics, listed in Table 1, are all within acceptable ranges, indicating a good-fitting model.

[Insert Table 1 Here]

Figure 2 shows the average brand→benefit and attribute→benefit loadings across all questions for the Kodak brand in the four categories arranged by Kodak's time-in-category. Although the data are only cross-sectional, we find that when the categories are arranged from youngest to oldest according to Kodak's time-in-category (starting with inkjet printers [youngest], ending with film [oldest]), the use of the brand source did not decline over time as Dillon and colleagues (2001) had speculated. Rather, reliance on the brand source increases from .6 to .73 and reliance on the attribute source declines from .638 to .475. Interestingly, the data were collected in 2003, the first year that Kodak's inkjet printers entered the market, so the finding that consumers relied relatively more heavily on the attributes of Kodak's printers to judge the same set of benefits in this category, while they relied increasingly more heavily on the brand source in the other categories, is consistent with our theorizing about the evolution in consumers' relative use of the two sources over time.

[Insert Figure 2 Here]

Although there is not a continuous growth in the size of the brand→benefit loadings, it is possible that a ceiling effect may be keeping the brand→benefit loadings from getting larger in the traditional camera and film categories, possibly providing less evidence for the expected relationship than may be evident in a less iconic or younger brand. While these results are not conclusive proof of a systematic evolution, they are contrary to Dillon and colleagues' (2001) speculation, but consistent with our theorizing presented above, suggesting that consumers' reliance on overall brand information grows over time, even for an iconic brand entering a new category.

5.2 Brand Extensions

The Kodak data allow us to comment on consumers' use of the brand and attribute sources when evaluating brand extensions. It is likely that use of the brand source would be lower for brands in extension categories with a low degree of fit with existing brand offerings. In such cases, overall brand information would provide relatively less information about the brand's performance on key benefits and consumers would be forced to consider the brand's attributes, features or ingredients that give rise to such benefits. However, the use of the brand source would be higher for extensions with a higher degree of fit, as overall brand information would be relatively more helpful. We emphasize the relative nature of the use of the brand versus attribute sources, as consumers use both in most situations, but our theorizing and results indicate a shift over time in relative importance of the two sources, from attribute to brand.

5.3 Surface-Cleaning example

More evidence for a growing reliance on the brand source comes from analyzing longitudinal data from the surface-cleaning category, which includes the Swiffer brand. A major global CPG firm collects data on all brands in the category every two years. Our data come from the U.S. and Canadian markets for 2007, 2009 and 2011, and are collected through a brand

tracking study based on Keller's (2008) CBBE framework. The data were binary, collected in a "pick all that apply" format.

We analyze consumer brand beliefs data for seven brands in the surface cleaning category across the United States and Canada. Raggio, *et al* (2014) suggest that of the five boxes of Keller's (2008) pyramid, questions that address "performance" benefits are the most managerially actionable. Thus, we analyze up to 10 of the most-important benefits from the CBBE "performance" box in each market. Although for confidentiality reasons we are not able to reveal the actual questions, benefits that are representative of the "performance" box and could be used in this category are: cleans well; cleans quickly; is reliable; requires less scrubbing; is strong; is effective; is long-lasting; is natural. Importance of benefits was measured by the firm based on each benefit's contribution to the overall brand evaluation. We analyze the same seven brands and same 10 benefits across all three years in both markets using AMOS 19 and following the procedure described above for the Kodak data. Fit statistics, listed in Table 2, are all within acceptable ranges, indicating a good-fitting model.

[Insert Table 2 Here]

Table 3 provides the average brand→benefit and attribute→benefit loadings for each brand across the three years for the U.S. and Canada. Figures 3 and 4 portray the brand→benefit loadings data graphically. As expected, the average brand→benefit loadings are greater in 2011 than in 2007 across both markets (only Clorox in Canada has a lower 2011 brand effect than in 2007). But as can be seen, brand effects did not grow continuously across the three surveys.

This time period was an especially interesting one for consumer products categories. The financial crisis hit in 2008, and the H1N1 flu pandemic hit in 2010, both of which should impact consumers' relative reliance on the two sources of information in predictable ways. First, the financial crisis could impact consumers' financial situation directly, changing consumption

behaviors, and indirectly if advertising budgets were cut. Cuts in advertising could reduce top-of-mind brand awareness, and both effects potentially could change consumer mindset at the shelf, encouraging more thoughtful consideration of offerings beyond brand name. Second, brands positioned strongly on germ-killing (e.g., Lysol and Pine Sol) should see increased consumer reliance on the brand source in 2011 over 2009, as such a positioning would represent top-of-mind associations that do not require a close investigation of ingredients, formulas, etc.

[Insert Table 3 and Figures 3 & 4 Here]

While these exogenous factors are not intended to explain all data points for every brand (that is, we are not proposing a model for predicting reliance on the brand source), they may explain key changes to specific brands across the two markets. In fact, when we reported our results to the global GPG firm that supplied the data, research managers expressed that the results were consistent with their understanding of changes in advertising and consumer behavior over the time period. It is also important to note that the CPG firm changed the survey in 2009 to describe the category as "household cleaning and dusting." The word "dusting" did not appear in the earlier 2007 or later 2011 surveys because, based on their analysis of the 2009 data, they were concerned that this wording advantaged the Pledge and Swiffer brands that offered dusters over those that did not. This also helps to explain the 2009 results for Pledge/Swiffer versus other brands. Likewise, we note that brands positioned strongly on germ-killing indeed saw increased consumer reliance on the brand source in 2011. Further, Lysol and Pine Sol did not even see decreases in reliance on the brand source in Canada in 2009.

We also collected U.S. advertising data for the four brands that offer cleaning products similar to Swiffer's duster over the focal years (Mr. Clean, Pledge, Swiffer, Windex) and compared it with the results of our decomposition. AdSpender is a commercial database product of TNS Media Intelligence that provides a summary of the advertising expenditures across a

variety of media for the entire U.S. marketplace. AdSpender monitors local, regional and national media buying information for millions of brands across 11 media sources. We collected total annual media expenditures across all media from AdSpender for these four brands from 2005 – 2011. Table 4 shows the total amount spent on U.S. advertising for the four brands from 2005-2011. Table 5 reports the correlations between the average brand→benefit loadings and average attribute→benefit loadings and three measures of U.S. media expenditure for the four brands. AdDollars reflects current-year spending (e.g., 2007 total spending compared with 2007 brand→benefit loadings). 1-Yr Lag Ad $ reflects prior-year spending (e.g., 2006 total spending compared with 2007 brand→benefit loadings). Finally, 2-Yr Avg Ad $ reflects an average of the prior and current years' spending (e.g., average of 2006 & 2007 total spending compared with 2007 brand→benefit loadings). Correlations are high and positive though not significant (probably due to the small sample size of 12 observations) between the average brand→benefit loadings and all three measures of ad spending. Correlations are high and significantly negative between the average attribute→benefit loadings and all three measures of ad spending. This result indicates that reduced advertising was associated with consumers focusing more on the attributes, features or ingredients of offerings on the market, and that higher ad spending levels are potentially associated with more consumer attention on overall brand information. This result provides a boundary condition to our general observation of steadily increasing reliance on the brand source and good news for brand managers who seek greater influence of their brands on consumer evaluation and decision-making.

[Insert Tables 4 & 5 Here]

Additional evidence for the expected attribute-to-brand transformation is provided by arranging the annual brand effects by time-in-market. Consistent with the Kodak results, Figures 5 and 6 demonstrate a significant impact of time-in-market on average brand effect for the four

brands that offer cleaning products similar to Swiffer's duster over the three years, in both markets. As time-in-market increases (from less than one year for Windex in Canada, to 13 years for Swiffer in the U.S.), the average brand effect generally increases with time. Thus, we provide evidence for evolving brand effects that move in a direction consistent with our theorizing.

[Insert Figures 5 & 6 Here]

6. GENERAL DISCUSSION

Through the analysis of two unique datasets, we find that brands have a different effect on consumers' evaluations of brand-benefit beliefs over time. The changing reliance on overall brand information (the brand source) and detailed attribute-specific information (the attribute source) is related to time and experience and also exogenous factors in the market such as the macroeconomic environment, global health concerns, and advertising spending.

All else equal, with time and experience, we find that consumers tend to rely more on overall brand information. This finding is supported by analysis of both datasets, which reveals that reliance on the brand source increased along with a brand's time-in-market. Additionally, we also noted that for all but one brand in one market (out of 14 brand-market observations), 2011 brand→benefit loadings were higher than they were in the 2007 data. These findings are contrary to the speculation of Dillon, *et al* (2001), but should be encouraging to brand managers who attempt to develop strong brands that are able to influence the type of information and depth of processing consumers use to evaluate brand benefits and make brand choices.

As noted in the introduction, Dillon, *et al* (2001) considered overall brand information (GBIs) to represent "biases," and attribute-specific information (BSAs) to be "true" evaluations. As a result, it makes sense that over time and with experience, consumers would understand "the

truth" more fully with respect to the brands they buy and/or use and their ability to provide certain benefits. However, having more truthful information in stored memory and accessing/using that information are separate issues. While we agree that over time and with experience consumers should accumulate more attribute-specific information (and if brand managers do their jobs well, that information should be consistent with and support overall brand information), but at the same time that they are accumulating such detailed information, they also tend to *rely* on more overall or higher-level brand information to *evaluate* brand-benefits. To reiterate, the development and storage of information is a separate process from that of retrieving such stored information. These two observations are consistent with the recognition that humans are "cognitive misers," and will seek to use the easiest or most accessible information in memory if that meets their evaluation needs, despite that they may have more detailed (and potentially more helpful) information stored.

However, we also find that the shift from reliance on the attribute source toward heavier reliance on the brand source can be reversed when consumers are forced to engage in more thoughtful processing and thus use more detailed attribute-specific information. Although we did not test a model that could address the specific causes of observed changes in the relative use of the brand vs. attribute sources, we note that our data covered an extremely interesting period of time in three respects: macroeconomic conditions, global health concerns, and changing advertising budgets. We presented brief propositions for how each of these should impact consumer decision-making and evaluations, which were found to be consistent with the results of our decomposition and the expectations of the managers of the CPG firm that provided the data.

Overall, we provide evidence for evolving brand effects, present a methodology for identifying those effects, and evidence of the methodology's ability to see those changes across brands and benefits in real market data over time. With this information, managers are able to

determine if their branding, positioning and/or messaging is having the desired impact on consumer evaluations and can make and evaluate appropriate changes.

6.1 Implications of Evolving Brand Effects

Evidence for consumers' growing use of the brand vs. attribute source provides insights for brand managers dealing with brands over time. Early in a brand's life, or in an extension category that is not closely related to existing categories, consumers are likely to rely on detailed attribute-specific information, requiring brand managers to provide evidence of attributes, features or ingredients that give rise to desirable benefits. Over time and with experience, and in extension categories with a high degree of fit with existing offerings/categories, consumers are likely to rely relatively more heavily on overall brand information. Brand managers can use results from our procedure to alter their messages to more strongly emphasize either overall brand information or detailed attribute-specific information, depending on the consumer segment (recognizing differences in brand experience), or key benefit in question (recognizing the differential impact of brand on consumer evaluations of brand benefits).

However, we also note that there may be exogenous factors that cause consumers to rely more heavily on a different source than they did in the past, and such changing reliance should be reflected in the brand→benefit and attribute→benefit loadings, such as those we find in the surface cleaning results from 2009. As to the usefulness of the procedure, we note that Swiffer did not experience the expected reduction in brand→benefit loadings in 2009. In the absence of information on advertising spend, the results would only indicate that the Swiffer brand was not impacted by shocks such as the financial crisis. However, with information on advertising spend, it is possible to associate Swiffer's resilience with an advertising budget that grew 18% from 2008-2009, and was 70% larger than the next-largest budget (Pledge) in 2009. This

presents an intriguing implication worth future exploration: that advertising may influence, rather than merely be reflected in, use of the different sources. Correlation is not causality, but the Swiffer results demonstrate that consumers remained comfortable evaluating it based more on the overall brand than the specific attributes, even in 2009. This was not true for other brands in the same category.

A major implication of this research relates to brand positioning over time. Although we investigated average brand→benefit and average attribute→benefit loadings, it is helpful to see how the relative use of the brand source vs. attribute source changes over time for a particular benefit. Such investigation can reveal whether a brand successfully owns a strong position on a particular benefit(s) or is gaining/losing such a position. Based on the previous discussion, we would expect that higher reliance on the brand source (relative to other brands on the same benefit) would indicate a stronger position on a benefit, while higher reliance on the attribute source (relative to other brands on the same benefit) would indicate a brand that does not clearly own a strong position on that benefit. The implication of this research is that if consumers indeed rely more on overall brand information with time and experience, then brands may not be able to "own" positions on particular benefits for a long period of time.

Our research contact at the global CPG firm noted that the day before we reported our results, the advertising agency had asked, "So what's the balance between emotion and good, strong cleaning?" By providing an indication of which is more important to consumers at that point in time, our procedure can help brand managers more effectively answer this question.

6.2 Limitations

A fairly large set of brands (minimum of 4 or 5) and a similar number of benefits is required to produce a proper solution. Therefore, researchers must collect data for multiple

brands in the category, which may be problematic for categories that do not have a large number of competitors. Additionally, survey design should attempt to reduce the correlations among benefits, as estimation issues (i.e., indeterminate or improper solutions) may arise if benefits are highly correlated. When benefits are highly correlated, then some benefits may have to be dropped from analysis in order to arrive at a proper solution, making cross-market comparison difficult.

We also note that in order to have informative results, data must be collected over many periods. Even the large CPG firm that provided our data collected its brand tracking measures only every two years, meaning that it took five years to get data from the three administrations we analyze. That is, while it is easy and informative to collect data and apply the procedure to a single dataset in order to discover consumers' current relative use of the brand and attribute sources, getting results from multiple years in order to track relative change over time takes significant time and, therefore is not a quick solution for brand managers.

Finally, although we are confident that evolution in consumers' relative use of the brand vs. attribute source does not move in the direction speculated by Dillon, *et al* (2001), we do not offer a model that explains specific changes in relative use of the two sources for specific brands in specific years. That is, we can note the changes in use (e.g., 2009), but only offer correlational evidence for the cause of those changes. Future research will have to investigate the cause(s) of short-term changes in consumers' relative use of the two sources.

6.3 Conclusions

Even with these limitations, we are able to conclude that brand effects are not constant over time. More specifically, we demonstrate with seven brands in two markets over five years that (1) brand effects change over time; (2) there is a general growth in consumers' use of overall

brand information versus detailed attribute-specific information over time, and (3) the approach is sensitive enough to pick up changes in consumers' use of the two sources when they do occur.

We highlight the fact that we did not find continuously increasing use of the brand source across all brands in our longitudinal study as an indication of the robustness of our approach, rather than a weakness. The dataset has a significant advantage in that it is longitudinal, which allows us not only to look at overall trends, which we contend are toward heavier reliance on the brand source over time, but also to demonstrate the sensitivity of our approach to changes that theoretically *should* impact consumers' varying use of the different buckets (i.e., recession, changes in advertising, and H1N1). In our case, we would expect, *a priori,* these factors to produce a shift toward more thoughtful consideration of offerings and would have been disappointed had the procedure not been sensitive enough to capture the general shift in 2009. Although it is possible to claim that our results on the evolution of brand vs. attribute buckets still are equivocal, we suggest that the demonstrated sensitivity to expected changes significantly reinforces the validity of our decompositional procedure.

It is now possible to evaluate the differential effects of "brand" and track consumers' varying reliance on brand versus attribute sources over time. As a result, marketing researchers and brand managers must account for evolving brand effects.

6.4 Further Research

Although we have demonstrated the benefits of analyzing consumer brand beliefs survey data at the market level, we recognize the power of Bayesian approaches that develop individual-level estimates. A hierarchical Bayes model could produce estimates of the brand→benefit and attribute→benefit loadings for individual consumers in the sample enabling managers to segment

consumers on the basis of the similarity between the sources they draw on to provide their beliefs, rather than forcing them to rely on results from segments determined *a priori*.

The proposed procedure also should be helpful for diagnosing the efficacy of an advertising campaign, repositioning, repackaging, or new product entry under an existing brand name. Toward this goal, we suggest that companies collect data that capture repeated evaluations of brands over time (i.e., tracking studies). For example, brand managers currently have no short-term way of knowing whether their brand-building activities are working. By observing the sources of brand beliefs before and after a strategic change, managers will be able to tell whether consumers are focusing more on specific attributes or the overall brand to provide their beliefs. Although the procedure should work in such an application, further research might seek to determine how quickly such strategic activities can affect the sources of consumer brand beliefs. The brand→benefit or attribute→benefit loadings may change before either raw consumer brand beliefs or aggregate market-level measures, such as market share or loyalty, but this hypothesis should be confirmed. Additionally, our theorizing suggests that since a brand is closely tied to its promise of benefits (Raggio & Leone, 2007), it should have a greater impact on those benefits that are directly related to its promise. If not, this would suggest either poor communication of the brand's promise, or a deficiency in meeting it. Calculating brand→benefit loadings for specific brands and benefits and matching them with their associated positioning, would allow researchers to test this hypothesis.

Finally, consumer-based brand equity relies on strong, favorable and unique associations in consumer memory (Keller, 1993). We suggest that we have all three elements present in the combination of raw data and our decomposed brand ratings to develop an equity measure. Specifically, consumer brand beliefs data (raw evaluations) capture favorability (Barwise & Ehrenberg, 1985). We concur with Dillon, et al. (2001) who suggest that the brand → benefit and

attribute → benefit loadings derived from a procedure such as ours provide the requisite information about the strength and uniqueness of brand associations (through the degree to which they influence brand beliefs). Given these features, it is possible that the outputs of our procedure could be combined to form a measure of consumer-based brand equity, and commend the formulation and validation of such a measure to future research.

References

Anderson, J. R. (1983). A spreading activation theory of memory. *Journal of Verbal Learning & Verbal Behavior*, 22(June), 261-295.

Barwise, T.P. & Ehrenberg, A.S.C. (1985). Consumer beliefs and brand usage. *Journal of the Market Research Society*, 27(2), 81-93.

Batra, R., Lenk, P. & Wedel, M. (2010). Brand extension strategy planning: Empirical estimation of brand-category personality fit and atypicality. *Journal of Marketing Research*, 47(2), 335-347.

Bloemer, J., Brijs, K. & Kasper, H. (2009). The CoO-ELM model: A theoretical framework for the cognitive processes underlying country of origin-Effects. *European Journal of Marketing*, 43(1), 62-89.

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

Dillon, W. R., Madden, T. J., Kirmani, A. & Mukherjee S. (2001). Understanding what's in a brand rating: A model for assessing brand and attribute effects and their relationship to brand equity. *Journal of Marketing Research*, 38(November), 415-30.

Edwards, Y. D. & Allenby, G. M. (2003). Multivariate analysis of multiple response data. *Journal of Marketing Research*, 40(August), 321-34.

Gilbride, T. J., Yang, S. & Allenby, G. M. (2005). Modeling simultaneity in survey data. *Quantitative Marketing & Economics*, 3(December), 311-335.

Hutchinson, W. J. & Alba, J. W. (1991). Ignoring irrelevant information: Situational determinants of consumer learning. *Journal of Consumer Research*, 18(December), 325-345.

Keller, K. L. (1993). Conceptualizing, measuring and managing customer-based brand equity. *Journal of Marketing*, 57(January), 1-22.

--- (2008). *Strategic Brand Management* (3rd ed.). Upper Saddle River, NJ: Pearson Prentice-Hall.

Loken, B. (2006). Consumer psychology: Categorization, inferences, affect and persuasion. *Annual Review of Psychology*, 57(1), 453-485.

Lynch, J. G., Jr. and Srull, T. K. (1982). Memory and attentional factors in consumer choice: Concepts and research methods. *Journal of Consumer Research*, 9(June), 18-38.

Madden, T. J., Roth, M. S. & Dillon, W. R. (2012). Global product quality and corporate social responsibility Perceptions: A cross-national study of halo effects. *Journal of International Marketing*, 20(1), 42-57.

Marsh, H.W. (1989). Confirmatory factor analysis models of multitrait-multimethod data: Many problems and a few solutions. *Applied Psychological Measurement,* 13, 335-361.

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

Punj, G. N., & Hillyer, C. L. (2004). A cognitive model of customer-based brand equity for frequently purchased products: Conceptual framework and empirical results. *Journal of Consumer Psychology*, 14(1&2), 124-131.

Raggio, R. D. & Leone, R. P. (2007). The theoretical separation of brand equity and brand value: Managerial implications for strategic planning. *Journal of Brand Management*, 14(May), 380-395.

----, ---- and Black, W. C. (2014). Beyond "halo": The identification and implications of differential brand effects across global markets. *Journal of Consumer Marketing*, 31(2).

Sonnier, G. & Ainslie, A. (2011). Estimating the value of brand-image associations: The role of general and specific brand Image. *Journal of Marketing Research*, 48(3), 518-531.

Sujan, M. (1985), Consumer knowledge: Effects on evaluation strategies mediating consumer judgments. *Journal of Consumer Research,* 12(June), 31-46.

Van Osselaer, S. M. & Janiszewski, C. (2001). Two ways of learning brand associations. *Journal of Consumer Research*, 28(September), 202-223.

Wyer, R. S., Jr. & Radvansky, G. A. (1999). The comprehension and validation of social information. *Psychological Review,* 106 (1), 89-118.