THREE ESSAYS EXPLORING CONSUMERS’ RELATIONSHIPS WITH BRANDS AND THE IMPLICATIONS FOR BRAND EQUITY

DISSertation

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

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* * * * *

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ABSTRACT

During the past 15 years, brand equity has been a priority topic for both practitioners and academics. Despite the attention it has received during this period, no consistent measure of brand equity has been adopted. In Chapter 2, I propose a new framework for conceptualizing brand equity that distinguishes between brand equity, conceived of as an intrapersonal construct that moderates the impact of marketing activities, and brand value, which is the sale or replacement value of a brand. Such a distinction is important because, from a managerial perspective, the ultimate goal of brand equity research should be to understand how to leverage equity to create value.

In Chapter 3, I develop a measure of brand equity that is consistent with the framework introduced in the previous chapter, but is based on an empirical procedure that utilizes the loadings produced by an unconstrained factor analysis model that is applied to binary consumer response data collected by the Procter & Gamble Company (P&G) for brands from four product categories and five countries (17 total markets).

P&G’s survey consists of hundreds of questions, which give a general idea of how favorable consumers’ beliefs are about brands. What these questions do not provide is any insight concerning how consumers arrive at those beliefs, important information that
brand managers were lacking. This chapter introduces an empirical procedure to identify which sources consumers use to develop their beliefs about brands, i.e., high-level brand or detailed attribute sources, and the implications for brand management. From these sources, I then develop a measure of brand equity based on consumers' use of the high-level brand source and show that a significantly smaller number of questions can produce a measure of brand equity that correlates highly with that produced by P&G's current system. The benefit to marketing management is the implication that by using the approach described in this paper, other companies also can better understand where their consumers’ brand beliefs come from, and now can develop a measure of brand equity that does not require a large complex instrument.

In Chapter 4, I seek to understand the strategic implications of the mental sources of information consumers draw from to develop their beliefs about the benefits that brands deliver, as described in Chapter 3. The general hypothesis is that the level of information that consumers currently use to develop their brand beliefs (high-level brand information or detailed attribute information) will moderate the impact of new information, such that a strategic advantage exists for brands when consumers currently use one of the sources instead of the other. The results from Chapter 3 demonstrated that the high-level brand source is more closely related to a measure of brand equity. The question remains whether the outcomes that are supposed to accrue to a brand with high equity (especially those of greater loyalty and less vulnerability) empirically can be linked with either the high-level or detailed attribute source. Chapter 4 describes an
experiment to test whether consumers’ current use of the high-level brand source or detailed attribute source is associated with less vulnerability to new (negative) information. What this study finds is that when subjects receive negative brand-level information second, it has a greater negative impact on overall brand evaluation if the initial information they possess about the brand is also at a brand level. Since the second brand-level information does not specifically contradict the initial attribute-level information, consumers would be left to determine the extent to which they will let the new non-performance related information impact their overall brand evaluations.

On the contrary, when consumers are faced with negative brand-level information that directly contradicts existing brand-level information stored in memory, it is reasonable that this new information would be assimilated with the old, and the overall evaluation fall.

The results do not support a general prophylactic effect of the brand source, but are consistent with existing brand theory and provide a strong foundation for future research.
ACKNOWLEDGMENTS

I wish to thank my family, Noel, Jenna and Jack, for their willingness to join me on this journey. The completion of this dissertation is a testament to their faithful love, support, and encouragement. Words are inadequate to express the love and appreciation I feel for them.

For all of their teaching, mentoring, encouragement, and support, I wish to thank Neeli Bendapudi and Pat West, and extend a special note of thanks to Michael Browne for his feedback and guidance through the development of the RAMONA statistical procedure.

Bob Leone deserves special recognition as an adviser, mentor, guide, and collaborator. His constant encouragement sustained me in times of doubt and his willingness to share his wisdom and experience has helped me navigate the often tortuous course. I have learned much more than marketing or research from him, and my future colleagues and students will benefit from his influence.

I am forever indebted to Jim Morrison, who, as a graduate teaching assistant at the University of Southern Mississippi, ignited within me a passion for reading and writing,
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love of marketing. Without the influence of either of these, this journey never would
have begun.

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encouragement, collaboration and support.

The data for Chapter 3 came from the Procter and Gamble Company through the
generous efforts of Andreas Onnen and John Myers; I am grateful for their insights and
guidance during the development and implementation of the procedure.
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I became fascinated with brand equity while working as the marketing director for Kidpower, the toy company that produced the Funnoodle, America’s number one-selling summer toy for six years in a row in the late 1990’s and early 2000’s. Unfortunately, while nearly everyone recognized the long, ubiquitous, brightly colored foam pool noodles, very few could recall the brand name. This deficit did not affect sales, as we continuously captured more than 90% of the market as the sole provider of pool noodles to Wal Mart, Target, Kmart, Toys R Us, Sam’s and Costco. But it did spark a question about the role and value of a strong brand, especially as we attempted to extend the brand into other pool products and related categories.

This dissertation will explore brand equity from a variety of perspectives. In Chapter 2, I propose a new conceptual framework for thinking about brand equity, specifically what it is and how it should be measured. This chapter also serves as a general literature review. Chapter 3 investigates brand equity from an empirical perspective, offering a model to decompose consumer brand beliefs into components that can be used to produce a measure of brand equity. Chapter 4 extends the empirical work
of Chapter 3 with an experiment to determine if the components identified as associated with brand equity produce effects that have been attributed to brand equity. From a research perspective, this dissertation, with its conceptual, empirical and experimental chapters, indicates the development of a comprehensive set of tools that can be applied to address the substantive issue at hand, and suggests the multi-faceted approach that I hope to employ as I continue to develop this research stream.

I am indebted to the researchers that have worked to develop the brand equity concept and its measurement over the past 15 years. It is only through their efforts that I have been able to question why brand equity is so hard to measure and begin to develop the theory that underlies the framework that I am introducing. I hope to ignite a lively and productive debate that will move our discipline toward a more general agreement on what brand equity is, how it is best measured and how it relates to other managerially-relevant concepts. This dissertation is my initial contribution to that effort.
CHAPTER 2

IMPLICATIONS OF THE THEORETICAL SEPARATION
OF BRAND EQUITY AND BRAND VALUE

“…remarkably few academic researchers have addressed
brand equity measurement per se. This may be partly due to
disagreement about whether equity should be measured from
the consumer or the firm perspective….”

2.1 Introduction

Brand equity is an important topic for marketing, strategy, economics, finance, and
accounting, and because strong brands are associated with more efficient marketing
activities (Smith and Park 1992; Srivastava and Shocker 1991), brand equity continues to
be one of the most researched areas in marketing. However, researchers recently have
proposed that it is even more important for managers to measure, track, and increase
customer equity (Blattberg and Deighton 1996; Rust, Lemon, and Zeithaml 2004; Rust,
Zeithaml, and Lemon 2000, 2004), that is, the total discounted lifetime values summed
over the firm’s current and potential customers (Rust, Lemon, and Zeithaml 2004). As
Rust, Lemon, and Zeithaml (2004, p. 110) state, “In recent years, customer lifetime value
(CLV) and its implications have received increasing attention…. For example, brand
equity, a fundamentally product-centered concept, has been challenged by the customer-
centered concept of customer equity.” This shift has opened a debate among researchers

In response to this debate, I suggest that brand equity represents the customer-focused portion of a larger framework that includes both brand and customer equity, as well as brand value. One need look no further than the *Journal of Marketing* to observe how this area has recently evolved; its two most recent award-winning articles have dealt successively with brand equity (Ailawadi, Lehmann, and Neslin 2003) and customer equity (Rust, Lemon, and Zeithaml 2004). A comprehensive framework is needed to reconcile the two views.¹ I provide such a framework by explicating the relationship between two separate, but related constructs: *brand equity*, which has a consumer-based perspective, and *brand value*, which has a company-based perspective, and of which customer equity is a component. This chapter will begin by focusing on the more comprehensive concepts of brand equity and brand value, then will both suggest how customer equity fits into a new framework and contribute to the understanding of existing customer equity models (e.g., Rust, Lemon, and Zeithaml 2004a).

In 1999, leading researchers and practitioners participated in a workshop on brand equity metrics (MSI 1999) and developed the 10 criteria for an ideal measure of brand equity listed in Table 2.1.

¹ Participants at AMA’s 2005 Winter Educator’s Conference, during a special session on customer equity, also highlighted the current debate and called for a comprehensive framework.
1. Grounded in theory.

2. Complete, i.e., encompassing all the facets of brand equity, yet distinct from other concepts.

3. Diagnostic, i.e., able to flag downturns or improvements in the brand’s value and provide insights into the reasons for the change.

4. Able to capture future potential in terms of future revenue stream and brand extendibility.

5. Objective, so that different people computing the measure would obtain the same value.

6. Based on readily available data, so that it can be monitored on a regular basis for multiple brands in multiple product categories.

7. A single number to enable easy tracking and communication.

8. Intuitive and credible to senior management.

9. Robust, reliable, and stable over time, yet able to reflect real changes in brand health.

10. Validated against other equity measures and constructs that are theoretically associated with brand equity.

Table 2.1: MSI’s (1999) Criteria for an Ideal Measure of Brand Equity.

While no single measure is likely to meet all these criteria, I believe that the primary obstacle preventing further development of managerially useful brand equity measures and tools is the lack of a theoretical foundation for the concept of brand equity, as well as a clear distinction between brand equity and brand value. The purpose of this chapter is to provide such a theoretical foundation that can be used to evaluate not only the MSI desiderata, but also current and future brand equity and customer equity research. Ultimately, I hope that this foundation will allow researchers to develop a more robust measure of brand equity and provide more effective managerial tools for maximizing both brand equity and brand value.
Many researchers have attempted to measure brand equity, but have succeeded in defining and measuring only *outcomes* of brand equity; that is, only benefits that are hypothesized to accrue to brands that possess brand equity. Though definitions of brand equity (e.g., Keller 1993) allude to conditions (associations) within individuals that lead to (1) biased processing of information, (2) persistent attitudes or beliefs that are (3) resistant to change, and (4) behaviors that are influenced by those beliefs (c.f., Farquhar 1989; Keller 2003b), *measures* suggested in the literature are one or two stages removed from the individual: either focusing on brand-level or firm-level *outcomes*.

In some cases, it is possible that outcome measures may be useful in showing that brand equity exists (or does not exist) for a brand. However, in most cases, relying on outcome measures is not appropriate. While outcome measures contribute to brand value, they can be either inaccurate or misleading indicators of the presence or absence of brand equity. If this is true, then why have researchers used outcomes as a measure of brand equity, and what are the problems that exist when using outcomes?

### 2.2 Why Did Researchers Gravitate to Outcomes?

By focusing on outcomes of brand equity, rather than the construct itself (Ailawadi, Lehmann and Neslin 2003), the majority of prior research has missed the opportunity to advance our understanding of brand equity. It is easy to understand why researchers frequently use outcome measures. First, outcome measures are used because they are readily available to firms and researchers, since they exist in the data that
companies generate as part of normal operations. Researchers do not have to go through any substantial effort to collect data or to validate a new measure. Along with being so readily available, outcome measures have the appeal of offering what appear to be universal measures of brand equity, but in reality, as will be demonstrated with examples in Section 2.3, outcome measures are not appropriate in many cases. This is because there can be a significant amount of slippage between brand equity and the proposed outcomes (c.f, Fennell and Allenby 2003; Verhoef 2003). “Slippage” refers to the fact that there is not a consistent one-to-one mapping between brand equity and outcomes.

Second, the researchers investigating brand equity have usually been concerned with strategic implications and shareholder value, which are important to managers. Marketing strategy researchers have been able to use more aggregate measures to investigate the causes of sustained competitive advantage and the financial implications of marketing activities in order to establish their findings. In the same way that behavior is sometimes used as a proxy for attitude, outcome measures have served as a proxy for brand equity. Unfortunately, this has resulted in proposed measures of brand equity that do not capture the construct, but are actually incomplete measures of brand value. The distinction between brand equity and brand value is important to the theoretical framework that I will introduce, and this distinction will be discussed in Section 2.6.

Finally, some researchers may resist going “upstream” to investigate brand equity, even though the source of brand equity ultimately resides within the hearts and minds of consumers (Ambler 1997). Investigating intrapersonal measures may be seen as the domain of psychology and consumer behavior, so strategy researchers might shy away
from using theory and findings from this domain, or feel that the measures might not be
easy to link back to strategic decision making, or not as “intuitive and credible to senior
management” (MSI 1999 #8) as are outcome measures.

The above may explain why outcome measures have been used. However, the
literature lacks a comprehensive review of the consequences of relying on outcome
measures as a proxy for brand equity. The next section will discuss some of the
theoretical and empirical issues associated with using outcomes.

2.3 What’s Wrong With Using Outcome Measures?

Outcome measures are subject to three general criticisms. First, outcome measures
have alternative explanations (Keller 1993; Agarwal and Rao 1996; Amine 1998). Most
studies propose measures that only measure potential outcomes of brand equity, but since
the behavioral process is not defined, multiple alternative explanations can always be
generated. Table 2.2 lists 34 outcome measures of brand equity that have been proposed
in the literature, but it is important to note that Agarwal and Rao (1996) demonstrate that
outcome measures are highly correlated with each other and basically provide the same
information.

Second, outcome measures lack diagnostic ability (Ailawadi, Lehmann and Neslin
2003). While an outcome measure may indicate where a brand is at a point in time, it
gives no indication as to how it got there, or how to change (improve) the measure in the future. Further, it is possible that prescriptions designed to boost outcome measures may actually undermine brand equity.

### Primary External Outcomes

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<td>Price premium</td>
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<td>Market Share</td>
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<td>Revenue premium</td>
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<td>Perceived quality</td>
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<td>Satisfaction</td>
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<td>More positively weighted attributes</td>
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<td>Value (in use, or value proposition)</td>
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<td>Brand name awareness</td>
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<td>Unaided recall</td>
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<td>Share of mind</td>
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<td>Esteem</td>
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<td>Brand liking</td>
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<td>Brand image</td>
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<td>Brand associations (positive, unique, strong)</td>
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<td>Brand Personality</td>
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<td>Meaning of the brand</td>
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<td>Brand loyalty (repurchase rates)</td>
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### Secondary External Outcomes

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<td>Organizational associations</td>
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<td>Distribution coverage</td>
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<td>Replacement value of the brand</td>
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<td>Market value of the brand (if sold)</td>
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<td>Earning power of the brand</td>
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Table 2.2: Potential Outcomes of Brand Equity Identified in the Literature.
Table 2.2 continued

**Internal Outcomes**

<table>
<thead>
<tr>
<th>Overall / Give the brand benefit of the doubt</th>
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<td>Rate attributes higher because of brand</td>
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<tr>
<td>More certain about attribute/brand ratings</td>
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<tr>
<td>Brand rating more important than individual attribute ratings</td>
</tr>
<tr>
<td>More certain about attribute/brand ratings (justify)</td>
</tr>
<tr>
<td>Less certain about attribute/brand ratings (truth)</td>
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</table>

| 1 Primary External Outcomes refer to the measurable effects of a brand. |
| 2 Secondary External Outcomes may be affected by one of the primary external outcomes in addition to one of the major contributors listed at top. |
| 3 Internal Outcomes refer to the affects that brands have on individuals’ processing of information and decision making. |

For example, moving a high-end brand into the mass market to boost revenue premium (Ailawadi, Lehmann and Neslin 2003) may actually reduce brand equity if the brand’s image is damaged by the move.

Finally, outcome measures do not account for future profitability or potential (Barwise, Higson, Likierman, and Marsh 1990; Simon and Sullivan 1993). Clearly, the future potential in terms of future revenue stream and brand extendibility is impacted by the perceptions of current customers and non-customers. If, for example, an attribute of an existing product keeps certain consumers from buying the current offering, then removing or changing that attribute may increase the likelihood that those consumers would purchase that (or another) offering in the future. Yet, the product change does not have to increase brand equity in order for a consumer to start buying the brand. The
change may have only allowed the individual to act on the pre-existing brand equity that exists for the product. In order to capture brand equity one would have to look at what changed not at the product level, but at the individual level.

Beyond these general criticisms of using outcome measures, five specific problems associated with using outcome measures should be accounted for in future operationalizations of brand equity.

1. Not specific to a particular market, usage occasion or group of consumers
2. Ignores non-customers and future potential
3. Makes incorrect comparisons
4. Assumes same goals/objectives across firms
5. Puts emphasis on short-term effects that may be “vulnerable”

From a managerial perspective, these are reasons why corporate outcome measures may not consistently track with changes in underlying consumer brand equity. These five problems are discussed below along with specific examples.

2.3.1 Not specific to a particular market, usage occasion or group of consumers.

All outcome measures are dependent on the person-situation context (Fennell 1978; Sheppard, Hartwick and Warshaw 1988; Yang, Allenby and Fennell 2002); therefore, clarifying the market, occasion and segment to which the measure applies will make any brand equity measure more meaningful. The brand and brand equity concepts should be formulated in such a way that they incorporate heterogeneity due to changing context, making them “robust, reliable, [and] stable over time” (MSI 1999, #9).
For example, among automotive repair people (professional or DIY), Lava soap may have tremendous brand equity related to its ability to clean tough grease from hands, but for the same individual this equity may not extend to (and in fact may be negative in the context of) baby care (see Miller and Ginter 1979; Day, Shocker and Srivastava 1979).

Consumers in different geographic areas may base their evaluations of brands on different sources. For example, consumers in warmer climates may have perceptions of winter parka brands built primarily by awareness (advertising, image, etc.), but those perceptions may differ from those of consumers in colder climates who actually use the product more regularly and have more direct product knowledge. As a result, brand equity may play a much larger role in the purchase of parkas in warmer climates than it does in colder climates where consumers possess more direct product knowledge and can more objectively rate different offerings.

Without accounting for differences in brand equity that arise from different market, usage occasion or consumer groups, brand equity researchers may over- or under-represent the brand equity of a particular brand.

2.3.2 Ignores non-customers and future potential

Outcome measures of brand equity rely on behavior (purchase), which is driven by much more than brand equity (e.g., utility) and ignore latent brand equity that represents the potential of the brand (MSI 1999 #4). For example, current purchase does not
account for consumers who may be in the market in the future, but are not yet even prospects for marketing messages. A woman without children who is not currently in the market for kids’ diapers will still see ads that are run and form impressions of the brand even though she is not in the diaper market or even the target for diaper ads. As a result, for this woman, positive brand equity may exist.

Additionally, most of the outcome measures (price premium, for example) ignore non-customers. Consider the Rolex brand. A small sample of Ph.D. students in a large Midwestern university all agreed that Rolex has brand equity. But when asked who has or would purchase a Rolex watch, not one of the students said they own or plan to purchase a Rolex. The fact that a person decides to not purchase a brand is not proof that brand equity does not exist. In the same fashion, the fact that a person does purchase a brand – even at a price premium – cannot be conclusive proof that brand equity does exist. Purchase may indicate only that the brand is just objectively good (Keller 1993) and that a nonlinear relationship exists between the amount of “goodness” that the brand possesses (over competitors) and price. Therefore, while price premium may be an outcome of brand equity, by itself it is certainly an inconclusive measure.

Since only consumers who actually purchase are considered in most outcome measures, consumers who do not pass a purchase threshold are assumed to have no brand equity. But this would also eliminate consumers who may be “pulling for” the brand (i.e., have a strong “attachment”) (Thomson, MacInnis and Park 2005), or would like to purchase the brand if only the quality was improved, the price reduced, the product offered in a different configuration, or the need for the product class arose. Extending the
diapers example above, many people who do not have children know about Pampers. They may actually have a strong attachment or affection for a brand in categories where they are currently not active buyers, but this would not be captured in measures that ignore non-customers, even though their current feelings may impact future sales.

Therefore, brand equity measures that ignore current non-customers and thus expansion ability (such as sales and market share) may appropriately be used to assess how well the brand is currently performing, but, will systematically underestimate the true brand equity. Researchers studying customer equity have recently accepted this proposition and have included the discounted value of potential customers in the measure (Rust, Lemon and Zeithaml 2004a).

2.3.3 Makes Incorrect Comparisons

Most definitions of brand equity relate to the effects that would accrue to a product with or without a particular brand name. Ailawadi, Lehmann and Neslin (2003) cite Aaker 1991, Dubin 1998, Farquhar 1989, Keller 2003b, and Leuthesser 1988 in support of their definition of brand equity: “Brand equity is defined as the marketing effects or outcomes that accrue to the product with its brand name as compared to the outcomes if that same product did not have the brand name” (p. 3, italics added). Keller (1993) states that customer-based brand equity exists when there is a “differential effect” of brand knowledge on consumer response “to the same marketing” of a fictitiously named or unnamed version of a product or service. Therefore, both definitions imply that
two conditions must exist for correct comparisons to be made: First, the products or services must be equivalent, and second, the marketing effort that each receives must also be equivalent.

Given that these two conditions must exist, using a house brand, store brand, or generic as a comparison brand (often considered to have zero equity) would not be appropriate unless it can be demonstrated that (1) there is no objective difference between the product offerings and (2) the marketing efforts for the two are identical. Neither of these assumptions is necessarily true. Typically the focal (national) brand receives much more marketing effort than the house or store brand. While such comparisons may demonstrate the positive impact of marketing (for the national brand), they do not demonstrate any differential impact and; therefore, it would not be appropriate to assume that the difference in the outcomes represent what would accrue to “that same product.”

Bronnenberg and Wathieu (1996) find that promotions of national brands are not always more effective than those of store brands. Instead, they find that promotion effectiveness is increasing in “positioning advantage”… whether, relative to the standards achieved by another brand, a given brand is underpriced (positive advantage) or overpriced (negative advantage). This suggests that differences in promotional effectiveness may not be due to brand equity that resides in the national brands, but in objective price/quality differences between the national and store brand offerings. After national brands lower their prices to compete with store brands, consumers respond rationally to a lower promotional price for what may be appreciably higher quality. While brand equity may
impact relative quality perceptions between store and national brands, I suggest, and will demonstrate in section 2.6.3.3, that the positive impact of brand equity is not limited to national brands only.

With respect to the equivalence of the products, Keller (1993) cites Park (1991) when stating, “Some of these [favorable brand] beliefs may reflect the objective reality of the product, in which case no underlying customer-based brand equity may be present…” (p.8). If one brand demonstrates an advantage over another in terms of sales, image, associations, etc., it may be that that brand is simply better than the other. In such cases, brand equity may actually be high or low. All that is known is that the objectively “better” brand has higher sales.

Some products are objectively good and these products may possess brand equity, but it may not affect the decision to purchase. Objective goodness may affect the value proposition, or value in use, independent of brand equity. Likewise, some products may be objectively bad. In such cases, lack of purchase may not be a signal of zero/negative brand equity, but of poor product performance.

Note that the previous discussion is not intended to indicate that poor products have brand equity and superior products do not. Instead, it is intended to demonstrate that while product performance may contribute to brand equity, product purchase can be based on factors other than brand equity. Just like lack of purchase is insufficient proof that brand equity doesn’t exist (e.g., Pampers, Rolex), so purchase (even at a price premium) should be insufficient proof that brand equity does exist (e.g., “objectively good” products).
2.3.4 Assumes same goals/objectives across firms

It is common to find companies that compete head-to-head in categories yet have very different goals and objectives. One brand might be focused on penetrating a market while another might be focused on skimming a market. Therefore, using price premium and market share measures for each of these brands would not be appropriate since a “value” or niche brand does not desire a price premium and a skimming brand is not focused on a large market share. Additionally, the mass market sells many brands at parity within a particular product category, e.g., cigarettes, candy bars, snack chips (Barwise, et al. 1990), and even though none of the brands would be selling at a price premium, differences in brand equity across brands could certainly exist. It is also important to mention that how a company (or researcher) defines the market would affect the measure of success. As Ailawadi, Lehmann and Neslin (2003) point out, any brand can have a large (small) market share if the market is defined narrowly (broadly) enough. Thus, even if outcome measures were appropriate proxies for brand equity for some companies, they certainly should not be viewed as “universal” measures, or appropriate for all.
2.3.5 Puts emphasis on short-term effects that may be “vulnerable”

Smith and Park (1992) find that market share and advertising efficiency effects decrease for brand extensions as consumer knowledge in the category increases. Consumer knowledge has also been found to influence attribute evaluations (Alba and Hutchinson 1987; Dillon et al. 2001) and temper halo effects (Beckwith and Lehmann 1975). The extent to which brand perceptions/attitudes are capable of biasing evaluations and impacting behavior is directly related to consumer knowledge. Unfortunately, consumer knowledge is subject to both consumer and competitor actions, and therefore vulnerable.

Keller’s (1993) definition of consumer-based brand equity implies that knowledge of the brand is a good thing. Positive image/associations/feelings may be good for a brand and increase brand equity, but objective knowledge may erode some brand effects (e.g., context effects such as blocking, Van Osselaer and Alba 2000) and thus decrease brand equity (Keller 2003b).

The three general and five specific criticisms of outcome-based measures of brand equity reveal that “outcomes” are not a reliable proxy for brand equity and if used can provide misleading or incorrect information. Unfortunately, even some of the measures that take a consumer-based perspective are not without theoretical problems.
2.4 Non-Outcome Measures Also Present Theoretical Problems

Most definitions of brand equity (e.g., Ailawadi, Lehmann and Neslin 2003; Aaker 1991; Dubin 1998; Farquhar 1989; Keller 2003b; Leuthesser 1988) assume that there is an effect of brand equity that would accrue to the branded product above the effect generated by any equivalent “other product” or non-branded product. Attempts to isolate these brand equity effects have lead to methodologies that subtract “objective reality” from total effect, presumably leaving a pure brand equity effect (e.g., Simon and Sullivan 1993; Park and Srinivasan 1994; Randall, Ulrich and Reibstein 1998). Such an effort requires some measure of objective reality (or the effect that would occur for a non- or other-branded, yet otherwise similar, product). Attempts have been made to incorporate the ratings of consumer research organizations such as *Consumer Reports* or other “experts” (see Park and Srinivasan, 1994) because they should not be “fooled” by any “magical” effects of brand equity.

There are two problems with this attempt to get at brand equity. First, the use of experts as “objective” suggests that brand equity exists because of misinformation, consumers’ lack of knowledge, or possibly some sort of trick or illusion created by the brand that can be “removed/muted” with experience or expertise. This implies that brand equity is 1) an individual (not corporate- or market-level) construct, and that 2) it is moderated by experience or expertise. I would like to highlight and accept the first implication, but am cautious about the second, because – assuming that expertise/experience increase over time (or, at least, are non-decreasing), especially with
product/brand use – by this approach brand equity should be considered to *decline* in value as consumer experience/expertise increases over time. There is no evidence that this is generally the case. To the contrary, I will argue that brand equity can exist even for experts, and that this equity can be built over time *due* to repeated (and therefore expected) superior product performance. However, some effects, driven by the context of the purchase situation (e.g., “blocking” Van Osselaer and Alba 2000) have been termed “brand equity” even though they are dependent upon the context.

Second, the measurement of brand equity as the difference between “consumer” and “objective” evaluation results in the conclusion that brands that are “correctly” evaluated by consumers (no difference between consumer and expert evaluation) have no brand equity. I wonder what happens when consumers gain knowledge and rate a brand equivalently with experts. Does brand equity disappear? Likewise, is brand equity a concept applicable only to gullible novices? I suggest that it is not.

Even when novices become “experts” brand equity may persist. Consider a sports franchise such as the Chicago Cubs. At the end of the season, all information about the team is known, including both individual and team statistics for the Cubs and for all other teams in the league. If consumers (fans) consume the available information and then rate the team’s performance on par with the “experts,” does this mean that the Chicago Cubs have no brand equity? Based on long-standing attachment to the team (Thomson, MacInnis and Park 2005), fans can be pulling for the team which can bias their evaluations of the team’s chances “next year.” I suggest that that attachment is brand equity. Consider also the Cracker Jack brand before Borden sold it to Frito-Lay. If
consumers rated Cracker Jack’s product quality as poorly as experts did (and market results indicate that they did), does this mean that Cracker Jack had no brand equity when it was bought by Frito-Lay? The obvious answer should be “no.” Brand equity certainly may continue to persist in the face of poor product performance or competitive information (although it may be diminished), or as will be discussed in a subsequent section, even in a situation where the brand is removed from the market and no longer available to consumers.

2.5 Additional Considerations

Some measures assume that brands are at a competitive equilibrium with respect to marketing variables (e.g., optimally priced). However, if brands are under- or over-priced, they may exhibit elasticities that seem to demonstrate a differential marketing impact, when, in fact, they may only be exhibiting an elasticity effect. A true measure of brand equity should be able to separate the outcomes of managerial decisions from what lives in the hearts and minds of consumers, which is where true brand equity resides.

The next section will begin to develop the proposed theoretical model based on the considerations presented above. A key component of the model is the distinction between brand equity and brand value. Therefore, before describing the equity and value components individually, it is necessary to establish their theoretical separation.
2.6 Developing a New Theory of Brand Equity and Brand Value

2.6.1 Brand Equity vs. Brand Value

Given the problems that were demonstrated to exist in prior approaches to studying brand equity, I suggest that the first step toward understanding “true” brand equity is to separate the concepts of brand equity and brand value. In making the distinction between the two constructs, I will show that most of the outcome measures discussed above lean heavily toward brand value.

I propose that brand equity and brand value are related, but separate constructs. I also suggest that one of the primary reasons no generally accepted measure of brand equity has surfaced in the last 15 years is the fact that brand equity and brand value are frequently treated as the same construct by many researchers (e.g., Keller and Lehmann 2002, p. 1; Krishnan 1996, p. 390; Rust, Zeithaml, and Lemon 2004, p. 118; Simon and Sullivan 1993, p. 29). As early as 1991, Srivastava and Shocker (1991) proposed that brand equity is a multidimensional construct composed of brand strength and brand value. Brand strength gets at the consumer effects and is consistent with Keller’s (1993) customer-based brand equity; brand value gets at the financial valuation of a brand, which can be thought of as the sale or replacement value of a brand. Despite the fact that Srivastava and Shocker suggested this distinction, researchers have consistently used the two terms interchangeably. It is not my goal to simply reassert Srivastava and Shocker’s (1991) multidimensionality of brand equity, but instead to propose that brand equity and brand value are separate and distinct constructs.
The simplest way to show the difference between the constructs is to consider brands suggested in the literature as “zero equity”\(^2\) (e.g., Ailawadi, Lehmann and Neslin 2003). Do these brands have no value? I assert that the answer is no since, given that the brand is available in the market, one would assume the firm selling the product realizes some value. The literature also implies that in order for a brand to have equity it must be available in the market and there must be a consumer base. This is clearly not the case as evident by looking at the Dewalt brand before Black & Decker reintroduced it. The Dewalt brand produced no value for Black & Decker when it was withdrawn from the market, since no products were available to consumers, but clearly the brand maintained equity. A similar case would be the decision by P&G to discontinue using the White Cloud name when narrowing down the number of items it offered in the toilet paper category. The brand was producing no value to any firm for a short period of time until Wal-Mart decided to seize the brand and reintroduce White Cloud in its stores. Wal-Mart’s decision was based on the fact that it was more profitable to leverage the existing brand equity in the White Cloud name rather than to develop a new brand from scratch, so clearly even when the brand was providing no value to any company it did have brand equity. This is another example of the non-correspondence between brand equity and brand value.

The fact that equity and value are two distinct constructs also can be seen if one imagines two firms bidding to purchase a brand from a third firm. At a particular point in time, assuming an objective measure of brand equity exists and is used by all three firms,

\(^2\) Keller (1993) asserts that brand equity is built through brand associations. Since some automatic associations should exist for all brands, I believe that it is impossible for a brand to have zero equity.
each firm should come up with the same “number” (quantity) for brand equity. However, the different prospective owners (bidding firms) might develop totally different brand valuations based on what they believe are their existing capabilities, resources, etc. and how they would be able to leverage the brand equity to generate value. Moreover, if a purchase takes place, it is clear that the purchaser’s valuation must have been higher than that of the current owner, or the transaction would not have taken place (Barwise et al. 1990). It should follow that as a prospective owner determines a valuation for a brand prior to purchase, the brand does not immediately gain equity when ownership is transferred. Instead, the value of the brand may increase (decrease) as the new owner is (not) able to leverage existing brand equity. Different bid prices do not necessarily represent different assessments of brand equity calculated by the firms but rather different valuations based on their perceived abilities to leverage existing and build new brand equity.

Not only are the two constructs distinct, they are not necessarily even positively related. Consider the decision by Lee jeans to increase its distribution by agreeing to sell its jeans at Wal-Mart. *Ceteris paribus*, Lee will be able to generate higher revenues than it did previously, and consequently the Lee brand may have a higher valuation. But it does not follow that the brand equity for Lee jeans must have increased. The impact on Lee’s image of selling its jeans at Wal-Mart may result in decreased brand equity at the same time that brand value is increasing due to the very fact that it is sold at Wal Mart.
The overall image and perceived quality for Lee jeans may have dropped significantly even though its revenues increased. A similar effect may have occurred due to the decision to offer Land’s End clothing at Sears.

Likewise, consider the $1.7 billion purchase of Snapple by Quaker Oats in 1994. Quaker Oats’ distribution strength was in supermarkets and drug stores, not the smaller convenience stores and gas stations that comprised more than half of Snapple’s sales (Feder, 1997). Because Quaker Oats was unable to significantly increase the supermarket and drug store sales to compensate for lost c-store and g-store sales, Quaker was forced to sell Snapple for a mere $300 million only three years later. In this case, Snapple’s brand value decreased enormously over the three years that Quaker Oats owned it, but this says nothing about Snapple’s brand equity which easily could have stayed the same over this time period. Basically, neither of these purchase prices provides any information about the magnitude or movement of Snapple’s brand equity.

Given the cases described above, it is clear that brand equity and brand value cannot be different dimensions of the same construct. The sections that follow will demonstrate how brand equity contributes to the value of the brand, and also that brand value includes much more that is not directly related to customers or consumers in general. For example, in addition to consumer-based brand equity, brand value may be impacted by brand profitability, brand scope, patents/trademarks, and as suggested by Del Vecchio, et al. (2003), HR advantages, relationships with capital markets, government

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3 I note here and will demonstrate in a subsequent section that if, as I suggest, customer equity is considered a component of brand value, that this statement is consistent with Rust, Lemon and Zeithaml’s (2004a) model of customer equity.
(tax) relations, channel relationships, etc. Therefore, the constructs of brand equity and brand value are related, but since brand value includes brand equity plus other components, they cannot be different sides of the same coin, or different dimensions of the same construct. It is impossible for two constructs to be the same if one subsumes the other, as brand value subsumes brand equity. Since I propose that brand equity and brand value are two related but separate constructs, it will be impossible to produce a single number capable of capturing both changes in consumer perceptions/attitudes toward the brand and market value of the brand (e.g., MSI 1999, #7).

For conceptual purposes, I suggest that brand equity represents what the brand means to the consumer and brand value represents what the brand means to a focal company (Shrivastava and Shocker 1991). Therefore, each represents not only a distinct construct, but a unique perspective. Separating the two constructs will encourage researchers to demonstrate the ways that brand equity contributes to brand value (c.f. Keller and Lehmann 2002, Rust, Lemon and Zeithaml 2004b) and how both can be increased. Given that I conceptualize brand value as firm specific, it is not the same as “value in use” or “value proposition,” which are both consumer-based concepts and therefore not consistent with the company perspective of brand value. I suggest that if one is searching for a consumer-based financial brand valuation measure it is best measured as consumer’s “willingness to pay” (e.g., Wertenbroch and Skiera 2002).
Based on the previous discussion, I offer the brand equity vs. brand value propositions presented in Table 2.3.

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
<td>Brand Equity and Brand Value are different constructs. Brand Value is a larger construct that subsumes Brand Equity.</td>
</tr>
<tr>
<td>2.</td>
<td>Brand Equity is what the brand means to the consumer; Brand Value is what the brand means to the company.</td>
</tr>
<tr>
<td>3.</td>
<td>Brand Equity exists regardless of the owner of the brand and we should be able to measure it objectively.</td>
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<tr>
<td>4.</td>
<td>Brand Value is the total impact of a brand on the financial outlook of a company.</td>
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<tr>
<td>5.</td>
<td>Brand Value is subjective; varies according to who is doing the valuing (e.g., current owner, potential buyer, investor, etc.), and (in the case of owners) their capabilities and resources.</td>
</tr>
<tr>
<td>6.</td>
<td>Changes in Brand Equity should impact brand value, but brand value may change without any impact on Brand Equity.</td>
</tr>
<tr>
<td>7.</td>
<td>If a brand has no equity (which I believe is impossible), it will still have value to the company that owns it; the issue is incremental value over another (or no) brand name.</td>
</tr>
<tr>
<td>8.</td>
<td>The consumer-level financial impact of Brand Equity should be measured as “willingness to pay.”</td>
</tr>
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Table 2.3: Brand Equity vs. Brand Value Propositions.

2.6.2 Brand Value

As mentioned above, brand value generally can be thought of as what a brand means to a focal company. More formally, brand value is the sale or replacement value of a brand. This value will vary depending on the owner of the brand, as different owners may be
able to capture more or less of the potential value of the brand, based on their ability to leverage brand equity. Figure 2.1 identifies two important levels of brand value, “current” and “appropriable.” Both of these measures of brand value are subjective and dependent upon the resources and capabilities of a focal firm. For a particular firm, at a particular point in time, and all other things being equal, a firm will recognize a “current” value, yet there may exist a higher “appropriable” value (e.g., Mizik and Jacobsen 2003) that it could capture if it were better able to leverage the existing brand equity more effectively. Both values represent the net present value of all future brand profits. Brand value has two features that distinguish it from customer equity. First, brand value considers profit from all sources, whether or not they are directly related to customers (i.e., licensing, patents, tax incentives, attractive loan rates etc.), and not only contribution. Secondly, both current and appropriable brand values are considered. 

Current value is based on projected profits that would accrue to the current owners assuming existing strategy, capabilities and resources. Appropriable value is based on projected profits that would accrue to a firm that fully leveraged the existing brand equity.
All else equal, the difference between the current and appropriable value of a brand is based on the firm’s ability to leverage brand equity. Appropriable brand value represents the theoretical point at which all existing brand equity is optimally leveraged. As a result, it can be said that the “current” measure of brand value defines “what is” for a particular firm (or what an acquiring firm believes it would achieve), while brand equity helps define “what can be,” i.e., the appropriable value, for a firm.

Estimates of appropriable value could be based on sources that include the superior resources of competitors or the “vision” of an individual. For example, Borden sold its Cracker Jack brand to Frito Lay in October, 1997 because it believed that it would be able to capture more of the appropriable value of the brand by selling it than by
owning it and increasing its investment in the brand. This belief may have been based on witnessing Frito Lay’s distribution and marketing capabilities and the fact that as a product, Cracker Jack would benefit greatly from Frito Lay’s core strengths. Frito-Lay owned a 15,000-truck direct-to-store delivery system, which one industry consultant estimated, “would add 10 to 15 market share points in the category” (Thompson, 1997). In fact, Frito-Lay was able to double Cracker Jack sales, posting double-digit sales increases each year, for the next two years (Hartnett 2000). The decision by Borden executives to sell Cracker Jack made good business sense since they knew that the Cracker Jack brand would be more valuable within the Frito Lay system than it could ever be in its own system, and therefore Frito Lay would pay more for the brand than Borden could ever extract on its own. Therefore, by selling Cracker Jack Borden was able to capture more of the appropriable value (from Frito Lay) that Borden could not have captured had it continued to own the brand.

Another example is provided by Ailawadi, Lehmann and Neslin (2001) who investigated the impact of P&G’s value pricing strategy, which shifted marketing resources from promotions and into advertising. They found that “the net impact [of such a shift] is a decrease in market share for the initiating company, though it is plausible that its profits increased” (p. 58). Whether profits increased or decreased is irrelevant to this discussion since if one measures brand equity based on market share, this would indicate that brand equity fell as a result of the value pricing strategy. However a measure of brand equity based on price premium would indicate that brand equity increased due to the strategy. It is inconclusive whether revenue premium (Ailawadi, Lehmann and...
Neslin 2003) would go up or down, but what is clear is that immediately after the change, true brand equity would not have changed (although the higher prices may have caused a longer-term decrease in brand equity, but this is not certain, only speculation). In my framework, this strategy represents P&G’s attempt to leverage existing brand equity in order to capture more of the appropriable value of its brands.

There are companies that recognize and capitalize on the concept of appropriable value. Private equity firms like KKR represent the “visionaries” that attempt to identify brands (or companies) with higher appropriable value sooner than others. Their objective is to build a brand to the point where other companies recognize the potential for a higher appropriable value, at which point they sell it, capturing a part of the buying firm’s appropriable value for themselves. This leaves the acquiring company in a position to “chase” the remaining value between purchase price (becoming current value for the acquiring firm) and perceived appropriable value. The same could be said about P&G’s recent acquisition of Gillette. Gillette built its brands to the point that P&G recognized the appropriable value that could be chased if Gillette’s brands were managed from within its system.

If a firm acquires a brand, but misses its financial projections, it could be attributed to a lack of ability to leverage existing brand equity, or an initial mismeasurement of brand equity that lead to an overly optimistic assessment of appropriable value (Barney 1986). Of course, it should be possible to exceed projections if (1) its initial estimates of brand equity were low, (2) the company was better able to leverage existing equity than projected, or (3) the company was able to build and
leverage additional brand equity beyond what was projected prior to purchase. In this sense, the purchase of brands is somewhat analogous to the purchase of oil leases\(^4\). At the time of purchase, the true amount of reserve is unknown, yet estimates exist. The failure to extract as much oil as projected could be due to either an inaccurate estimate of reserves, or an inability to extract those that are there.

When thinking about the distinction between current and appropriable value it is important to look at a brand over time, since over time, both current and appropriable value can change. In Figure 2.2a., the vertical line represents the sale of a brand from one firm to another. Before the sale, the seller was able to capture only a certain amount of the appropriable value of the brand. If the buyer possesses superior resources or capabilities, it will be able to “chase” the appropriable value and close the gap between current and appropriable value through application of its marketing resources and capabilities that leverage brand equity. Such a scenario would play out when a particular firm realizes that it lacks the resources to close the gap through owning and managing the brand, and decides to capture more of the brand’s appropriable value by selling the brand in the factor market (e.g., Borden and Cracker Jack). Obviously, such a sale would occur when the selling price is above the value the current owner believes it could generate by managing and investing in the brand, and below the acquiring firm’s perception of its appropriable value (e.g., Barney 1986 ).

\(^4\) Except that in the oil lease scenario, the acquiring firm is not able to increase the amount of reserves.
It is interesting to recognize that if an acquiring firm already possesses resources and capabilities that are at least equivalent to anything the current owner could develop, and all other things being equal (such as discount rate and brand equity), that the prospective owner’s estimate of appropriable value should not be less than that of the current owner. This is due to the fact that if the current owner must invest in additional resources or capabilities in order to leverage brand equity and capture more of the appropriable value, then this investment would be subtracted from the realized value of the brand, making it more profitable to sell the brand than to invest more in it and continue to own it.

As stated above, brand value is defined as the sale or replacement value of a brand. There are certainly other factors that will impact both current and appropriable brand value. For example, R&D activities can increase the appropriable value of a brand.
if the activities generate patentable or hard-to-copy technologies or help secure the endorsements of experts. For example, consider when Crest toothpaste first acquired ADA approval. In Figure 2.2b, time $a$ represents the acquisition of the approval. If Procter & Gamble (P&G, Crest’s owner) does nothing to promote the fact until time $b$ then the gap between current and Appropriable value (for the current owner, P&G) would increase during this time.$^5$ If at time $b$ P&G decided to place the ADA logo on Crest packaging, then the current value (again, to P&G) would increase, but not as much as if it were to place the logo on the packaging and incorporate the new ADA approval in its advertising and collateral material. Such activities represent attempts by the current owner to increase and then chase the Appropriable value of its brands. This is exactly what P&G did and Figure 2.3 shows how over time Crest was able to grow and ultimately switched places with the previous market leader, Colgate.

$^5$ Obviously, if P&G sold Crest at this point, an acquiring firm would consider the ADA approval an asset that would increase the value of the brand. But if P&G did not take advantage of this approval, then it would not be fully leveraging the brand equity that existed in the brand, and therefore its value to P&G would not be increased by the approval.
The ability to leverage brand equity is dependent upon company resources (i.e., what companies currently have – which can be termed a “multiplier”) and/or capabilities (i.e., what they can do with brands - the ability to grow brand equity). A multiplier relates to physical resources such as a strong company name, channel relationships, etc.
Frito Lay’s distribution system is a good example. Its system was projected to immediately increase the value of the Cracker Jack brand when it was acquired, and that is exactly what happened.

The ability to build brands and brand equity could be viewed as a core competency and some firms strive to develop the capabilities necessary to build strong brands and to grow brand equity. For example, Kimberly Clark and Procter & Gamble have brand management systems that allow them to increase the value of their brands through the development of brand equity, and this helps them manage brands they develop within the company, as well as any brands they acquire. Consider P&G’s purchase of Olay and Old Spice. Both of these brands were laden with “old” associations, but the company was able to leverage key positive associations and build each of the brands’ equity (Krishnan 1996). This ability relates to “something that the company does.”

I do not mean to suggest that the multiplier or system capabilities are mutually exclusive; instead, my goal is to highlight the fact that even when brand equity is not changing over time, it is a company’s ability to leverage that equity that determines the value of the brand to that company.

In addition to moderating the firm’s ability to leverage brand equity, managerial capabilities influence the success of strategic and tactical decisions such as market definition, which affects the scope of the brand (i.e., mass vs. niche), and myriad other tactics and strategies (e.g., pricing, promotions, positioning, advertising, research spending, etc.) that impact brand profitability and thus brand value. Poor strategies,
tactics or execution may leave a brand with poor profits but high appropriable value, if a potential acquirer has a plan to improve the profitability of the brand. In such a case, the potential acquirer would estimate an appropriable value for the brand that is higher than the current value produced by the existing management. In other cases, prior managerial decisions or actions may have depleted the brand’s equity and left a new owner very little to leverage.

Brands also are valuable in ways not directly related to customers, or consumers in general. Del Vecchio, et al. (2003) demonstrate that strong brands make it easier for companies to hire better people cheaper. HR costs are lower as a result. This research provides evidence that brands contribute value in ways that are not measured by contribution, but should be considered in the sale or replacement value of the brands. Because employees need not be prospects for the company’s products, it follows that value added through reduced HR costs (or other overhead items) may not be directly impacted by customers, or consumers in general, but they do affect the company’s profitability and thus the value of its brands. Failure to consider such sources of brand value underestimates their true value, and highlights the distinction between equity and value proposed in the previous section.

Gupta, Lehmann and Stuart (2004) proposed that customer lifetime value can be used to estimate firm value. Since customer lifetime value (CLV) is a contribution-based approach, the previous discussion indicates that, CLV-based valuation methods will systematically underestimate firm value to the extent to which strong brands impact
firms’ overhead costs as well as revenues, providing a potential explanation for cases in which Gupta et al.’s (2004) valuation did not match a company’s stock price-based valuation.

Del Vecchio, et al. (2003) also suggest that brands may contribute value through relationships with capital markets (e.g., more attractive credit terms), relationships with governmental or regulatory agencies (e.g., more attractive tax incentives), and channel relationships (e.g., easier access to shelf space). Some may suggest that positive channel, capital market and governmental relationships represent different types of equities, e.g., retailer equity. I choose to focus on the consumer perspective in this chapter, but focusing on another type of equity does not affect the proposed definitions or the need to separate equity and value. One can select the perspective from which equity is addressed, but value subsumes them all. Even if value is impacted by many different types of equities, then brand value is still a construct that encompasses much more than a single type of equity, and therefore cannot be conceptually equivalent to equity.

To summarize this section, I argue that brands generate value for their owners through two general mechanisms: (1) a mechanism that generates value directly via impacted sales volume and profitability enabled by firm resources and capabilities, and (2) a mechanism that indirectly generates value for the company, by lowering costs in areas such as allowing a company to hire better people cheaper (Del Vecchio, et al.2003). Customer equity is a part of overall brand value, but it does not include the overhead cost-reducing benefits of strong brands. This distinction makes the brand value construct more comprehensive and applicable to the firm as a whole. However, since specific
managers may only be able to control the direct variable costs of their brands, this may render the customer equity construct (which considers only contribution) a more actionable one at operational levels of the organization.

Based on this discussion, the following brand value propositions are presented in Table 2.4.

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<table>
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<tbody>
<tr>
<td>1.</td>
<td>Latent Brand Equity leads to “appropriable value” that can be “chased” by a current (or prospective) owner.</td>
</tr>
<tr>
<td>2.</td>
<td>Appropriable brand value represents, <em>ceteris paribus</em>, the theoretical potential value of the brand if all existing brand equity is optimally leveraged.</td>
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<tr>
<td>3.</td>
<td>Appropriable brand value differs based on whether a company has a “multiplier” (e.g., company name, distribution channel, etc), and/or has the capability to grow brand equity.</td>
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<tr>
<td>4.</td>
<td>Current brand value represents the value that the current owner has been able to generate through its attempts to leverage brand equity.</td>
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<tr>
<td>5.</td>
<td>The gap between current and appropriable brand value is based, <em>ceteris paribus</em>, on a firm’s ability to leverage brand equity.</td>
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<tr>
<td>6.</td>
<td>not directly related to customers or consumers in general; for example:</td>
</tr>
<tr>
<td>a.</td>
<td>Brand profitability (managerial actions)</td>
</tr>
<tr>
<td>b.</td>
<td>Brand scope (market definition)</td>
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<tr>
<td>c.</td>
<td>HR advantages</td>
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<tr>
<td>d.</td>
<td>Relationships with capital markets</td>
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<td>e.</td>
<td>Relationships with governmental or regulatory agencies</td>
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<tr>
<td>f.</td>
<td>Channel relationships</td>
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<td>g.</td>
<td>Patents/Trademarks</td>
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It is impossible for two constructs to be identical when one subsumes the other.

7. Brand Value defines “what is” for the current (or prospective) owner; Brand Equity helps define (contributes to) “what can be.”

Table 2.4: Brand Value Propositions.
2.6.3 Brand Equity

Up to this point, if one looks across all of the research that has been done in the brand equity area it is clear that a single, uniformly-accepted theoretical foundation does not exist. What is clear from what has been discussed in the chapter thus far is that from a managerial perspective the ultimate goal of brand equity research should be to understand how to develop brand equity and how to leverage brand equity to create value. It is important for marketers to understand the distinction between brand equity and brand value as discussed earlier and to have a framework that allows them to understand brand equity as a separate and unique construct in light of this distinction. Currently, none of the brand equity methodologies suggested in the literature is consistent with the framework I propose.

I suggested that brand value is specific to a particular owner of a brand and implies a unique, company-based perspective. Generally, brand value is what the brand means to a company and defines “what is” or “what could be,” either for the current or prospective owner. I now propose that brand equity resides within and is specific to each consumer (Keller 1993; Rust, Lemon and Zeithaml 2004b). This consumer perspective implies that a single, individual-level, objective measure of “true” brand equity exists regardless of the owner of the brand, and that brand equity in the hearts and minds of consumers – not in the brand (Rust, Lemon and Zeithaml 2004b).

Generally, brand equity is what the brand means to each consumer, and the aggregation of brand equity across all consumers contributes to “what could be” for the firm. I earlier defined “what could be” as “appropriable value.”
Keller (2002) states that there is general agreement that “differences in outcomes from current marketing activities arise from the ‘added value’ endowed to a product as a result of past marketing activity for the brand” (p.XI). This added value is the result of brand equity. He categorizes the effects that have been documented in the literature into four types:

a. **Product-related effects**: e.g., product evaluations, perceptions of quality, purchase rates, consumer confidence, attitude toward a brand, purchase intention, mitigate the impact of negative trial experience, higher attitudinal and purchase loyalty.

b. **Price-related effects**: e.g., price premium, upward price inelastic demand, draw disproportionate share from smaller-share competitors and are relatively immune to price competition from smaller-share competitors, lower price sensitivity.

c. **Communication-related effects**: e.g., positive bias in the evaluation of brand advertising, more resistance to competitive ad interference and negative information, less reliance on product attributes information, sales more responsive to advertising, less vulnerable to negative effects of product harm.

d. **Channel-related effects** – e.g., easier time gaining access to markets and shelf space, feature advertising and display

These four categories capture the more than 30 outcomes of brand equity that have been proposed in the literature (Table 2.2). All of these effects are results of brand equity moderating the impact of marketing activities (or inputs) on consumer actions (or outputs). This insight is not new, but it represents an important starting point in understanding the difference between equity and the outcomes that it may influence.

Just as Amine (1998) and Chaudhuri and Holbrook (2001) distinguished between “downstream” measures or outcomes of brand loyalty (observing consistent brand purchasing over time), and “upstream” measures or attitudinal loyalty (the motives behind the repeat purchasing of a brand), it is important to note that prior measures of
brand equity have focused on “indirect” (Agarwal and Rao 1996; Keller 1993) or behavioral measures (i.e., downstream or outcome measures) as a proxy for brand equity, but have not measured brand equity itself (Ailawadi, Lehmann and Neslin 2003). And just as with downstream measures of brand loyalty, there can be a significant amount of slippage between measures brand equity and the proposed outcomes.

Consider a generalized scenario. The environment, including the marketplace with its marketing messages, provides information and offers options to individuals. Individuals draw on their experience to make a decision and decide upon a course of action. Some individual outcomes such as purchase will be visible in the marketplace and added to the aggregate view of the market, while others such as adding a product to a future consideration set (e.g., in a different context) are not picked up in an aggregate measure. By relying only on the outcome (purchase) not only would brand equity not be measured, but one would not capture the true total impact of brand equity. Thus, this scenario demonstrates the potential slippage between true brand equity and outcomes.

For example, while shopping for a car, a consumer may strongly consider a “sporty” brand, but not purchase that brand after concluding that it will not meet the needs of his growing family. However, as an outcome of that same shopping experience, he may also decide that the “sporty” brand would be a great rental for the romantic getaway he is planning. Brand equity for the “sporty” brand may even go up. But if purchase were required for brand equity to exist, one would conclude that there was no brand equity for the “sporty” brand, yet it is clear from the way the brand impacted his thinking that brand equity may indeed exist. Purchase of the “family” brand would be
noticed in the marketplace – even if the purchase were driven purely by utilitarian considerations rather than the effects of brand equity – yet, the addition of a brand to a future consideration set would not.

What becomes clear is the fact that equating brand equity with marketplace outcomes bypasses all of the changes that can occur in consumer attitudes, perceptions, beliefs, etc., yet it is what happens in the (heart and) mind of the consumer that determines brand equity. Moreover, even actual purchases do not reveal whether the observed outcome is due to brand equity (c.f. Fennell and Allenby 2003). The decision to purchase could be based on a careful consideration, be simply due to inertia or laziness, or even be a mistake. Thus, it should be clear that aggregate marketplace measures may capture part of the brand value for the firm, but they miss the moderating impact of brands on individuals, which is the domain of brand equity.

2.6.3.1 Brand Equity Defined

A brand represents a promise to deliver certain benefits to a customer or consumer (business or individual) (Ward, Light and Goldstine 1999; Clifton and Simmons 2004). Brands may choose to focus on one or more of the functional, emotional, social, safety, etc. benefits of the brand.

Whereas it has long been accepted that all goods and services provide benefits (e.g., Kotler 1977; Penrose 1958), individual consumer perceptions determine whether a
brand’s promise is salient, and whether or not the brand has met its promise, which cannot be determined simply by observing outcome measures based on purchase behavior.

I therefore define \textit{brand equity} as the perception or desire that a brand will meet a salient promise of benefits. Operationally, I conceptualize brand equity as a moderator of the impact of marketing activities (products, messages, etc.) on consumers’ actions (consideration, purchase, etc.). Both the salience of the promise and the level of equity affect the degree to which the action $\rightarrow$ outcome link is moderated, as shown in Figure 2.4. A large amount of equity will have little impact on a consumer who believes the strong promise of a brand offering in a category for which he is not a prospect. For example, a young person may have developed a large amount of equity for Pampers even though she is not yet in the market for diapers.

![Diagram](image-url)

\textbf{Figure 2.4.} Brand Equity as a Moderator of Marketing Activity $\rightarrow$ Consumer Action Link
This definition and operationalization are in line with Farquhar’s (1989) and Punj and Hillyer’s (2004) suggestions that the brand equity construct is conceptually similar to attitude strength, and should manifest the intrapersonal advantages of strong brands proposed by Keller (2003b). Thus defined, brand equity should result in (1) biased processing of information, (2) persistent attitudes or beliefs that are (3) resistant to change, and (4) behaviors that are influenced by those beliefs (Petty and Krosnick 1995).6

Generally, differentiation in perceived ability to meet a salient promise of benefits, whether based on actual experience or perceived associations, leads to differences in brand equity. Each individual has his or her own perceptions about the salience of a promise of benefits and the brand’s performance; therefore, brand equity must be an individual-level construct and could vary across individuals. It is also important to note that perceptions can exist at either a detailed attribute or an overall brand level, and that brand equity may be based on perceptions related to individual attributes for one consumer and perceptions related to the overall brand for another (Dillon, et al. 2001; Raggio and Leone 2005).

Because perception or desire in a promise requires some amount of faith or trust, it follows that brand equity manifests itself in situations where this faith or trust must be demonstrated. Brand equity is always present and may persist over a variety of situations, but I suggest that it is most easily measured when a consumer faces conditions

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6 While this is consistent with the implications of outcome measures, I do not assume that given these outcomes brand equity exists. One must measure brand equity at the individual level, accounting for individual differences (heterogeneity) and only once brand equity’s existence is established should one look for these outcomes.
of uncertainty. This could occur when a competitor runs an ad questioning the quality of the product you purchase, or a friend questions why you purchase a certain brand rather than the brand that they buy.

By contrast, since it does not require any great leap of faith to believe that the Diet Coke that I will buy this afternoon will be any different from the Diet Coke that I have bought every afternoon for the past 6 months, measuring brand equity in this situation would be difficult. In such cases – and also in cases of “prudent choice” of an objectively good item – brand equity may or may not exist.

Contrary to Rust, Lemon and Zeithaml (2004a), I suggest that customer equity is actually a company-based concept, focusing on how much a company can gain from its customers, while brand equity is a consumer-based concept. I am in agreement that successful brands reflect the identities of their customers and not the identities of their owners (Rust, Lemon and Zeithaml 2004b), but I suggest that this is merely consistent with the marketing concept and not a unique outcome of focusing on customer equity. Finally, the company-based perspective of customer equity is consistent with my assertion that customer equity should be considered a component of brand value.

It is important to distinguish between brand equity’s effect and its existence. The Diet Coke example is used to demonstrate that brand equity may exist even when a purchase is habitual and based on inertia (or even addiction). In such cases, at some point in time brand equity met some threshold level within the consumer, and as a result of positive experience with the brand (possibly over several time periods) future purchases became habit. Once a habit is formed, its maintenance is impacted by brand equity to the
extent that the person chooses not to reevaluate her consideration set. Brand equity can impact the consumer’s decision to continue purchasing Diet Coke after she takes note that a new beverage has been added to the assortment or hears rumors linking aspartame with memory loss\textsuperscript{7}.

I acknowledge that brand equity may exist in the habitual (every afternoon) case mentioned above, but it would be very difficult to observe and measure. However, I suggest that brand equity is active and easily measurable when a person must demonstrate trust. Examples of such cases are included in Table 2.5. Overall, these situations force consumers to reconstruct their consideration sets and re-evaluate the options available (e.g., Wood and Lynch 2002).

| 1) Changes in the individual’s personal or usage situation, |
| 2) The introduction of a new brand into a category or assortment, |
| 3) Changes (positive or negative) to an existing product, |
| 4) Brand extensions, |
| 5) Product harm crises, |
| 6) Claims made by a competitor, |
| 7) Word of mouth |
| 8) Out-of-stock, |
| Etc. |

Table 2.5: Situations in which Brand Equity May Become Activated.

\textsuperscript{7} Interestingly, in this case, she may decide to stop drinking Diet Coke for health reasons, but retain a high level of brand equity. Over time, if not reinforced, or if it is shown that The Coca-Cola Company suppressed evidence of health risks, etc., this equity may diminish, but as mentioned above, lack of purchase is not proof that brand equity does not exist.
I add that brand equity is not required to maintain consistent choice, but consistent performance by a brand may contribute to brand equity. Thus, it should be possible for a significant amount of brand equity to exist even in an “expert.” For example, consumers may be aware that Diet Coke has performed consistently and met its promise of specific benefits, and this awareness then leads to increased levels of brand equity.

It is also clear that brand equity is not a dichotomous concept, sorting brands into those that do or do not have brand equity. Keller (2003a) asserts, “Any potential encounter with a brand – marketing initiated or not – has the opportunity to change the mental representation of the brand and the kinds of information that can appear in consumer memory” (p. 597). Such an encounter may occur when a consumer sees only the name, logo, or packaging of the brand and may generate a certain amount of brand equity as a result of the associations automatically generated. Thus, I suggest that not only is brand equity not a “zero or one” variable, but also that it is not possible for a brand to have “zero” brand equity. Since it is impossible to consider a brand void of any associations, some level of brand equity, even though sometimes small, must always exist.

2.6.3.2 Thresholds

If brand equity is more accurately measured as a continuous, rather than as a dichotomous, variable, then as suggested earlier, threshold levels may be necessary before brand equity impacts observable consumer behavior. This is consistent with the
general scenario presented above, and suggests that simply aggregating individual level measurements is inappropriate. While Rust, Lemon and Zeithaml (2004b) explicitly highlight the “flaw of averages” (p. 113), their simulation models (Rust, Lemon and Zeithaml 2003) use as input the overall impact of a change to one of the drivers (or sub-drivers) of customer equity, implicitly suggesting an “average” effect. Appropriately, their 2004a paper suggests that the models can be adjusted to account for heterogeneity.

It is important for any model to address the issue of thresholds. This is due to the fact that if individual-level measures are aggregated to form an overall score, then the “total” brand equity calculated may be substantial, but such a measure may incorrectly estimate the marketplace effect that will be observed if equity levels of many of those in the sample fall below their threshold levels. Thus, it could be possible to generate a large estimate of brand equity, but find very little benefit (small or no outcome) in the marketplace. It follows then, that in some cases, a small increase to brand equity for the right individuals (i.e. those with current equity just below their threshold) may produce significant impact in the marketplace. Rust, Lemon and Zeithaml (2004b) demonstrate varying levels of brand equity across individuals (p. 113). I suggest a distributional view of brand equity and note that Allenby and Ginter (1995) developed a methodology for applying different marketing efforts to different areas of the distribution. A similar procedure can be used to determine which consumers are more likely to respond to efforts aimed at leveraging brand equity. In summary, threshold levels introduce another reason why there can be a significant amount of slippage between brand equity and marketplace outcomes.
If it is not possible for a brand to have “zero” brand equity, then one may ask, “What about private label, store brands, or ‘generics’?” In many studies these brands have been characterized as “comparison brands” and assumed to have no brand equity or the “lowest level of brand equity”. I discuss this topic in the next section.

2.6.3.3 Private Label

In all cases when a consumer makes a purchase he or she is buying a brand. While it is appropriate for researchers to call a brand a “private label” when making a distinction regarding the “ownership” of the brand, from the consumer’s perspective, a “private label brand” is just another brand offering in the marketplace. This is especially true now that in many categories companies have developed private labels as “name brand” goods (e.g., Ol’ Roy, White Cloud, Private Selection, President’s Choice, etc.) and consumers frequently do not know that some of these brands are owned and managed by the retailer. In the past one may have equated “generics” and “private label,” but it is rare to find the “white labeled” generics that were so prominent in the late 1980s.

Research demonstrates that store brands possess positive brand equity and exhibit some of the outcomes attributed to high-equity brands. Chintagunta (2002) describes “positive equity built up by this [store] brand among its consumers” (p.153). Dhar and Hoch (1997) state, “We found that private label promotions had more impact on private label share than opposing national brand promotions” (p.226). This research supports the
notion that private label brands may be more responsive to marketing activity (see Keller 1993), thus possess positive equity. Further, many private label brands copy the packaging of national brands (i.e. use similar trade dress) that is intended to link the private label to the national brand in the mind of the consumer, gaining access to the national brand’s positive associations and in essence “borrowing” equity from the national brand.

I believe that it is possible for private label brands to possess more brand equity than national brands in the same category if the private label is better able to meet its promise of benefits at a lower price. In certain categories, private labels may be shooting for the “heart of the category,” and receive preference over brands with stronger, but less-central, associations. For example, store brands may offer “white” and “wheat” varieties of bread, while the national brands focus on specific types or numbers or grains, added nutrients like calcium, etc. If a consumer is looking for just “bread,” private labels may offer the consumer the best alternative. In other categories, private label brands seek to imitate the leading brand (Sayman, Hoch and Raju 2002). In such cases, if the private label can provide a product that is “just good enough” at a lower price, then the private label may generate higher equity than the national brand.

Brand Equity for one brand in a category is not mutually exclusive\(^8\). It is possible for a consumer to have brand equity for multiple brands in a category; thus, choice (purchase) does not indicate lack of brand equity for other brands. This is especially true

\(^8\) This characteristic distinguishes brand equity from brand attachment, as Thomson, MacInnis and Park (2005) indicate that “a strong emotional attachment is characterized by a perception that the object is irreplaceable,” (p.79).
of the relationship between the brand equity of private labels and national brands. The purchase of private label does not indicate low/no brand equity for a national brand; instead, it may simply suggest that the purchase was driven by factors other than equity.

In summary, “private label” brands are not automatically “zero equity” or “low equity” brands as indicated in much of the literature dealing with brand equity. This is not simply due to “involuntary” consumer associations (created through similar trade dress, etc.), but because they may sufficiently meet a salient promise of benefits at a more attractive price than national brands (i.e., they may be “good enough”). Thus, it may be possible for a private label brand to have more brand equity than a national brand if it more effectively meets its promise of benefits.

2.7 The Proposed Brand Equity Conceptual Model

Models exist that describe the components of brand equity (e.g., Keller 1993; Punj and Hillyer 2004) or the impact of brand equity (e.g., Keller 2003b) but to date no model has been presented that provides a comprehensive theory of the development of brand equity from different sources, the impact that brand equity can have on individuals, and how this individual impact is reflected in marketplace metrics. The model proposed in this section demonstrates that traditional measures are at least two stages removed from the consumer (the location of brand equity), explaining the potential disconnect between actual brand equity as it exists in the hearts and minds of consumers and the outcomes that can be measured in the marketplace.
This model attempts to describe the development and impact of brand equity on individual consumers and marketplace measures. It is not intended to describe the components of brand equity or its impact on choice. The model also can be modified to bring in other existing consumer behavior theory (e.g., central vs. peripheral processing; Petty and Cacioppo 1986).

The following represent the foundation of the proposed model.

*Brand* is conceptualized as a promise of value to the consumer. Differentiation in perceived ability to meet that promise contributes to brand equity.

*Brand equity* is defined as the attitude, perception, belief, or desire that a brand will meet its promise of value.

Brand equity is an intra-individual construct similar to attitude strength (Farquhar 1989). The literature on attitude strength (e.g., Petty and Krosnik 1995) supports the following:

**Within the person** – Brand equity results in biased processing of information that leads to persistent attitudes or beliefs that are resistant to change.

**Individual-level Outcomes** – Behaviors consistent with brand equity are more positive responses to product changes (improvements/mistakes), product harm (Dawar and Pillutla 2000), new competition, brand extensions, (Keller 2003b), etc. (Table 5).

**Market Outcomes** – Aggregated individual behaviors lead to the traditionally measured firm-level outcomes (e.g., loyalty, price premium, market share).

Understanding these components, it is easy to see that there may be a significant amount of slippage between brand equity and the proposed outcomes.
In this model, brand equity is an intra-individual construct. An implication of this is that the brand or the firm does not “own” its brand equity. Instead, brand equity resides in the hearts and minds of consumers (Clifton and Simmons 2004). Rather than thinking about “managing” brand equity, brand managers should think about “activating” the equity that resides with consumers, thus changing the focus from inward-looking (company) to outward-focused (consumers).
Environmental

Market Activities
Brand-related marketing efforts;
Consumer Experience w/ Brand;
Secondary Brand Info. (wom etc.)

Intrapersonal

Brand Knowledge
Brand Equity

Individual-level Outcomes:
Response to:
Marketing Activities
Change in personal or usage context
Product changes
Product harm
New competition
Brand extensions
Etc. (Table 3)

Market-Level

Potential Market-Level outcomes of Brand Equity:
1. Loyalty
2. Price premium
3. Market share
4. Revenue
5. CLV
6. Etc. (Table 2)

Potential Value:

Brand Value
Shareholder Value

Outcomes

Figure 2.5: General Brand Equity Framework
2.8 The Model

Figure 2.5 presents the generalized brand equity framework that integrates existing brand equity components within the proposed framework. It is important to note that the model is not a choice model. Instead the model is intended to demonstrate the relationship between brand equity that exists in the hearts and minds of consumers and the individual- and market-level outcomes – both those that can and cannot be observed.

I have demonstrated that purchase (or no purchase) is not a reliable measure of brand equity, nor does it indicate that brand equity exits; therefore, purchase (or not purchase), even though an outcome, is not included in the model, except at the aggregate market level. The model demonstrates how aggregate market level outcomes are produced and suggests several places at which “slippage” may occur between brand equity and outcome measures.

An important feature of this model is the distinction between environmental and intrapersonal components. Keller (1993, 2003a,b) suggests that environmental elements contribute to eight dimensions of brand knowledge, and that brand knowledge leads to brand equity. I supplement Keller’s (2003a,b) view by addressing what happens as a result of any changes to brand equity, and whether the outcomes are intrapersonal or market-level, and visible or not.

Similar to the generalized scenario presented above, but contrary to the implications of previous authors (e.g., Keller 1998, Ailawadi, Lehmann and Neslin
2003), I suggest that brand equity first impacts the individual. Brand equity will impact an individual in favor of a brand when the individual is presented with a situation that requires trust in that brand’s promise of value. Multiple potential situations were presented previously in Table 2.5. Overall, these situations may require that consumers reconstruct their consideration sets and re-evaluate the options available (e.g., Wood and Lynch 2002).

Positive brand equity above an individual’s threshold may produce a more positive response in favor of a target (or incumbent) brand, which can be considered an individual-level outcome. Note that observable behavior may even be contrary to the impact of brand equity. For example, when faced with a product harm crisis (e.g., the Tylenol tampering case), consumers may choose to avoid the brand in question for a while, but give it the opportunity to correct the problem in the future (Dawar and Pillutla 2000). Brand equity contributes to the consumer’s decision to give the brand another chance. This response to the crisis is contrasted with one where a consumer makes a more long-lasting decision to switch to another brand.

Individual-level outcomes that involve visible behaviors may be aggregated at the market level and classified as potential outcomes of brand equity. These outcomes represent the consumer-based component of brand value. In turn, the accumulation of the value of all brands in a firm’s portfolio contributes to shareholder value.

The model is consistent with the “routine” or “inertia” described above. It is also consistent with context effects such as blocking (Van Osselaer and Alba 2000), mere measurement (Dholakia and Morwitz 2002), compromise (Kahneman and Tversky 1984),
attraction (Huber, Payne and Puto 1982), trivial attributes (Broniarczyk and Gershoff 2003), etc., that have been proposed to be brand equity effects. Such effects may not change the individual or increase the likelihood of the individual-level outcomes suggested above. However, accumulation of experience driven by context effects may be used to inform more thorough processing at some future time.

Note that brand equity produced through context effects represent a potentially transient effect that may impact behavior in the short run, but is vulnerable to consumer knowledge and changes of context (i.e., competitive response) in the long run (Figure 2.6).

![Figure 2.6: Vulnerable Sources of Brand Equity](image-url)
More durable effects of brand equity are based on a relationship with the brand developed through more elaborate processing. These effects are not mutually exclusive. Allowing for different brand equity effects allows consumer knowledge to increase to the point where the consumer is no longer “fooled” by context effects, yet brand equity may still exist through the more durable effects (Park and Srinivasan 1994).

I suggest that it is much more difficult to control the “context” in which a brand is perceived (i.e., in an experimental way) than it is to control the extent to which a brand meets its promise of value. While not easy, meeting a promise of benefits is at least within the domain of managerial action. Alternatively, as it is also the domain of competitors, competitive messages, and heterogeneous consumer experience, context is not easy to manage.

The previous discussion leads to the brand equity propositions listed in Table 2.6.

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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Prior studies have used outcome measures as a proxy for brand equity, but have not measured the construct itself.</td>
</tr>
<tr>
<td>2.</td>
<td>Brand Equity lives in the hearts and minds of consumers, regardless of whether they are in the market for a particular category. Purchase is neither a necessary nor sufficient indicator of brand equity (e.g., Pampers, Rolex).</td>
</tr>
<tr>
<td>3.</td>
<td>At the individual level, Brand Equity can be measured as a consumer’s positive strong attitude toward a brand.</td>
</tr>
<tr>
<td>4.</td>
<td>In the marketplace, Brand Equity can be identified by the impact that it has on consumer information processing, judgment and choice.</td>
</tr>
</tbody>
</table>

Table 2.6: Brand Equity Propositions.
5. Brand Equity is not a zero/one (exists/doesn’t exist) construct; instead, it is continuous. Further, due to the fact that associations exist based on brand names, package design, etc., there is no “zero” brand equity.

6. Threshold levels of Brand Equity may be required before it has a measurable impact on judgment or choice.

7. Brand Equity may be produced through two processes: a) peripheral-type processing, produced by “context effects” (e.g., affect, associations, blocking, mere exposure, etc.), due to, and b) central-type processing, based on a brand’s perceived ability to consistently meet a unique promise of value [(value-price), Anderson and Narus 2004, p.6].

8. Type A Brand Equity is more vulnerable, because 1) It may only persist as long as the context persists, and 2) If consumers could be “shocked” into devoting cognitive resources to the evaluation of brands, they may be convinced to change their evaluations. It is much more difficult to control the “context” (i.e., in an experimental way) than it is to control the extent to which a brand meets its promise of value; the context is also the domain of competitive messages.

9. Preferences that are based on thorough consumer evaluations of brand attributes and levels in the category can be called “prudent” (an offering may be objectively good); no brand equity must exist, though it may.

10. Brand equity may influence what information is attended to and if/how it is processed or evaluated; therefore, Brand Equity may be considered a “biasing” (moderating) factor.

11. due to “involuntary” consumer associations (may be created through similar trade dress, etc.), but because they may sufficiently meet a salient promise of value at a more attractive price than “national” brands (i.e., they may be “good enough”). Thus, it may be possible for a private label brand to have more brand equity than a national brand if it more effectively meets its promise of value.

12. Brand Equity for one brand in a category is not mutually exclusive. It is possible for a consumer to have Brand Equity for multiple brands in a category; thus, choice (purchase) does not indicate lack of brand equity for other brands (i.e., purchase of private label does not indicate low/no brand equity for national brand).

Continued.
Table 2.6 continued

| 13. | Brand Equity is context dependent; in some cases, a consumer will perform an exhaustive search to find the brand, in other cases, a consumer will choose from among the brands available at a particular location (e.g., selecting beer in a grocery store vs. in a bar). |
| 14. | Brand Equity contributes to Brand Value to the extent that brand managers can “activate” existing brand equity (taking advantage of strong positive consumer attitudes during changes to consumer context, brand extension, product harm, new competition, etc.). |
| 15. | Experience based on continual peripheral processing may be used to inform more thorough processing later. |

2.9 Conclusion and Future Research Opportunities

I have presented a new model that establishes brand equity and brand value as two distinct constructs. Brand equity implies a consumer-based focus and it impacts consumer decision processes in a manner similar to that of the construct attitude strength. Brand equity is one of many factors that contribute to brand value, which is defined as the sale or replacement value of a brand and implies a company-based perspective. Because brand equity and brand value imply unique perspectives, and because brand value is a larger construct that subsumes brand equity and other constructs, the two cannot be “different sides of the same coin.” Only by separating the constructs will researchers be able to develop better measures of each.

The current debate over the relationship between brand equity and customer equity is addressed by positioning customer equity within the domain of brand value. In this light, I agree with Rust, Lemon and Zeithaml’s (2004b) model that positions brand
equity as a contributor to brand value (of which I suggest customer equity is a part).

While customer equity is a managerially useful construct, especially at operational levels, my framework represents a more comprehensive view of the relationship between equity and value. In summary, I have demonstrated that customer equity is actually a partial measure of brand value, and not an “equity” construct.

From a managerial standpoint, brand managers’ primary task is to maximize and leverage brand equity in order to increase brand value. The framework provides brand managers with a more comprehensive understanding of all the component parts than ever has been presented in the literature. It also addresses the concept of appropriable value, which is the value that could be realized if all existing brand equity were fully leveraged. This concept is consistent with both the literature on mergers and acquisitions (e.g., Barney 1986) and with current managerial practice (e.g., P&G’s purchase of Gilette).

Researchers will benefit from a more complete understanding of the impact of relying on outcome measures as a proxy for brand equity. I do not suggest that outcome measures are universally inappropriate proxies; rather, I suggest that they are not universally appropriate, as outcome measures represents only potential outcomes of brand equity and not the construct itself (e.g., Ailawadi, Lehmann and Neslin 2003). In some cases, outcome measures may provide some insights concerning whether or not brand equity exists, but in many cases the same outcome measures can be inaccurate and misleading. Of the thirty-four outcome measures of brand equity identified in the literature, all of them have alternative explanations that are completely unrelated to brand equity. As a result, cases exist in which a brand is rated high (low) on one or more of
the outcome measures, yet brand equity does not (does) exist. Reliance upon such measures could lead brand managers to make strategic mistakes based on an incorrect assessment of the strength of their brands. What is needed is for researchers to apply the insights provided in this chapter and the proposed framework to the development of new measures of brand equity. I make a few suggestions for how to proceed.

As stated in the introduction and evidenced by the prominence that brand equity research has attained within the marketing discipline (among both researchers and practitioners), a major task remaining before us is the accurate measurement of brand equity. The discussion and framework suggest that in the marketplace, brand equity can be identified by the impact that it has on consumer information processing, judgment and choice. Further, at the individual level, brand equity should be measured as a consumer’s positive strong attitude toward a brand. I suggested several situations in which brand equity is likely to impact consumers (Table 2.5). A good starting place for a measure of brand equity would be to ask consumers specifically about how they would react to each of the identified situations as it pertains to a particular brand. Responses could be compared across brands competing in the same category in order to provide relative measures. It is not clear whether absolute measures of brand equity are useful; therefore, it may not be appropriate to compare brand equity measures for brands across categories. This question will be left to future research.

The framework suggests that non-customers should be considered in measures of brand equity. Yet non-customers are only valuable to the extent that they either will be
customers in the future, or influence others (e.g., Hogan, Lemon and Libai 2002). Thus, appropriate measures should assume heterogeneity in the benefits that accrue from current non-customers.

The framework assumes threshold levels. This has not been suggested in the literature prior to this dissertation. Empirical research should investigate this issue to determine the extent to which thresholds exist and how they impact marketplace outcomes. Combining the concepts of thresholds and current non-customers, I suggest that the most important non-customers to target are those whose brand equity level falls just below a threshold, if levels above the threshold would cause a more favorable outcome for the brand. Thus, a distributional perspective on brand equity, as opposed to an aggregationist view is suggested.

Delvecchio, et al. (2004) have offered the only research to-date that specifically addresses potential sources of brand value beyond customers or consumers in general. I suggest that a more thorough understanding of non-consumer-based sources of brand value is needed. It is provocative to consider that brands may represent inefficiencies in capital markets or points of leverage with governmental or regulatory agencies. Such new knowledge will assist in understanding the degree to which CLV-based models will systematically underestimate firm value.
It will also assist accounting researchers in their efforts to include the value of intangible assets on the balance sheet. Barth, Clement, Foster and Kasznik (1998) state, “A major reason precluding accounting recognition is concern about whether brand values are reliably estimable,” (p.62). I suggest that the proposed framework contributes to the reliability of brand valuations by offering a means by which all the potential contributors to brand value may be identified.
CHAPTER 3

PRODUCING A MEASURE OF BRAND EQUITY
BY DECOMPOSING BRAND-BENEFIT BELIEFS
INTO BRAND AND ATTRIBUTE SOURCES

3.1 INTRODUCTION

Brand managers routinely collect survey data on consumers’ beliefs about the benefits delivered by their own and competing brands in order to understand the distinctive characteristics of brands in consumers’ minds. Barwise and Ehrenberg (1985) and others have shown that in some cases, consumer beliefs about how well brands deliver specific benefits merely reflect the overall favorability of brands (the “Big Brand Effect”) and do not contribute any additional information beyond market share. While it is important to understand the favorability with which consumers hold brands, this information is incomplete. Managers also need to have a clear understanding of the mental sources from which consumers draw to generate their brand beliefs; that is, where these beliefs come from in order to obtain direction for affecting their desired changes in consumer beliefs and perceptions.
In 2003, The Procter and Gamble Company (P&G) rolled out a new proprietary brand tracking system based on Keller's (2003) consumer-based brand equity (CBBE) framework. Keller’s CBBE framework maintains that building a strong brand involves 1) establishing the proper brand identity, 2) creating the appropriate brand meaning, 3) eliciting the right brand responses, and 4) forging appropriate brand relationships with customers. P&G determines how well a brand accomplishes these tasks by asking consumers about benefits related to all six blocks in the CBBE “brand pyramid:” salience, performance, imagery, judgments, feelings and resonance. P&G’s system produces a single brand equity score for each brand (both own and competing brands) in the categories in which it competes. In this short period of time, P&G has fully embraced this new system, which has garnered an endorsement from P&G’s general management leadership team. Managers and executives use this brand equity measure as an indicator of brand health, as well as for reward and compensation. Since its inception, P&G already has studied hundreds of brands, including all of its billion dollar brands, in more than 30 countries. Because the survey is so large and expensive to administer, it conducts annual assessments on its largest brands and conducts either limited versions or biannual studies for its smaller brands, but most of its brands are slated for some form of continuous tracking.

P&G’s consumer survey consists of hundreds of questions related to consumer brand beliefs that are primarily collected in check-box format, which give a general idea of how favorable consumers' beliefs are about brands, but do not indicate where those
beliefs come from\(^9\), important information that brand managers were lacking. Imagine a scenario in which consumers believe that a particular brand of paper product is “rough” or “thin” and that these are important benefits. Without understanding the basis (i.e., mental sources) of the consumers’ brand beliefs, it becomes difficult for the brand manager to initiate effective remedial actions. If the impressions are driven by detailed attribute information, it is likely that only a physical product change will improve those impressions. Alternatively, if the impressions are driven by overall brand impressions, it is likely that tinkering only with the product itself will not improve those impressions. Therefore, in providing a means to uncover the mental sources of consumer brand ratings for important benefits, the proposed model and approach also provides direction for managerial action.

“Brand-benefit beliefs” are defined as a respondent’s belief that a brand provides a specific benefit\(^{10}\). In a check-box survey question, a respondent would check the box if he or she believed that the brand in question delivers the specified benefit, or leave it blank otherwise. This definition is consistent with the instructions given to respondents of the P&G survey: “Please indicate which brands are best described by each of the

\(^9\) In the past eight to ten years it has become typical for companies to collect data using the check-box format as consumer surveys have become more lengthy and complex. This approach is designed to reduce respondent fatigue while simultaneously allowing companies to collect more responses from consumers. Unfortunately, many traditional data analysis procedures are not appropriate for this type of data.

\(^{10}\) The type of questionnaire used by P&G asks consumers about the benefits that brands deliver. For example, a question about a detergent brand may refer to “whitening” or “softening,” which are considered performance benefits (as opposed to psychological benefits such as “makes me feel confident”) that are delivered via specific attributes such as bleach or fabric softener (e.g., “Tide with a touch of Downy”).
following statements…” (E.g., “Is absorbent” for a brand of paper towels). “Brand beliefs” refer more generally to consumer beliefs about multiple benefits related to a specific brand, i.e., a collection of brand-benefit beliefs for a brand.

In collaboration with P&G, I developed a procedure that uses the check-box data that it collects and provides insight into the mental sources of consumers’ brand beliefs. Further, I have used the results about the mental sources that consumers use to generate their brand beliefs to develop a measure of brand equity that correlates highly with that produced by P&G’s current system, but my approach requires only 10 brand-benefit questions, as opposed to the hundreds collected by P&G to produce its measure. These combined results provide P&G with needed managerial direction and a reliable measure of brand equity at much less cost and with fewer questions.

Overall, this chapter makes three contributions: (1) produces a measure of brand equity based on the brand→benefit loadings from only 10 performance benefit questions, which correlates highly with P&G’s more complicated (and unrelated) procedure, (2) generates support for the proposed model by analyzing a dataset with more than 80 brands over 15 different markets to generate brand-, category- and country-level results, demonstrating its generalizability, and (3) demonstrates that a confirmatory factor model with unconstrained brand loadings performs better than one with constrained brand loadings as suggested by Dillon et al. (2001). I will discuss the model first, as this will facilitate the development of the concepts.
3.2 Sources of Consumers’ Brand-Benefit Beliefs

The model that identifies the mental sources that consumers use to provide their brand beliefs is based on a conceptual framework that assumes consumer brand beliefs come from two mental sources: one related to high-level brand information and the other to detailed attribute information. I use a confirmatory factor analysis (CFA) approach to estimate a structural model that identifies the latent mental sources of consumer brand beliefs better. To make use of P&G’s “check-box” data, I apply the Bayesian approach suggested by Edwards and Allenby (2003), which produces a correlation matrix based on augmented data that can be used as input for the proposed CFA model. I then incorporate the prior work of Dillon et al. (2001) to produce a flexible model that indicates when consumers use high-level brand information and/or detailed attribute information. To date, the model has been applied to P&G data across 15 markets around the world. I propose that companies can use a combination of consumers’ raw beliefs (i.e., check-box data) and the estimates of consumers’ use of the high-level brand source produced by my procedure to generate a measure of brand equity that does not require a large complex instrument. In the following sections, I describe the development of the model, selected results of its application to P&G data, and the development and validation of my brand equity measure.

When consumers are asked to provide their brand-benefit beliefs on a survey, their responses are based on the information they have previously stored and how it is activated in memory (Lynch and Srull 1982). Keller (1993) has suggested that brand
associations play a major role when consumers develop brand beliefs and that, due to these associations, the brand node becomes linked with attribute, usage occasion, benefit, and attitude nodes. Specific brand attributes, features or ingredients (such as bleach) give rise to specific benefits (such as whitening). Moreover, when a consumer is asked about a particular brand-benefit an associated attribute node may not be available.\textsuperscript{11} He or she may rely on other information, such as higher-level brand (node) information and its associated nodes. Thus, any belief a consumer provides is actually a composite of various sources in memory.

3.2.1 Sources of Brand Ratings Conceptualization

Theory suggests that consumers’ brand beliefs are based on sources of information that are stored in memory and associated with the brand or the category. Consumers may draw on details provided by personal experience, advertising, word of mouth, product packaging, and/or positioning statements to generate brand beliefs, or they may rely on an overall or general impression of the brand. For example, consumers may believe that a Volvo is a “safe brand,” even if they have never owned one or had any specific personal experience with the brand on which to base this evaluation. If so, then when consumers are asked about “side-impact protection” (an unobservable benefit associated with “safety”), they may believe that Volvo offers this protection because the

\textsuperscript{11} Attribute-level information may be unavailable because (1) the consumer has never encoded information about an attribute that relates to this brand-benefit, (2) it is “lost in memory” and inaccessible, (3) the consumer has already “rolled-up” the attribute-level information into a brand-level evaluation (attitude) and/or is not motivated to think about the details that contributed to his or her overall brand evaluation (i.e., the consumer is only motivated to retrieve the most easily accessible information that relates to the overall brand).
brand is strongly associated in their minds with “safety,” not because of any understanding of Volvo’s construction or other attributes that would provide this benefit.

A brand→benefit or attribute→benefit loading can be thought of as the weight that consumers place on either detailed attribute-level information (attribute source) or high-level brand information (brand source) in providing their brand-benefit beliefs. (A more rigorous definition will be provided in the section that describes the model.) In the Volvo example above, I would expect a large brand→benefit loading on the question related to side-impact protection, because I would expect Volvo’s reputation for safety to be a salient source when consumers provide their beliefs about benefits related to safety. The positive impression of Volvo as a “safe brand” may spill over to the evaluation of other unobservable but related benefits. Alternatively, when asked about a specific aspect of exterior styling (e.g., grillwork, or tail light design), if consumers have seen a Volvo and developed an opinion of the brand based on a specific characteristic that they notice, I would expect to see a high attribute→benefit loading for this benefit, because their beliefs are based on specific detailed items in memory that do not relate to Volvo’s overall reputation for being a safe automobile.

Figure 3.1 provides an example of how equivalent consumer brand-benefit beliefs on two benefits of a paper product (absorbency and softness) might be based on different sources. For each brand-benefit 67% of respondents checked the box, but absorbency is based almost equally on high-level brand information (53.5%) and detailed, attribute information (46.5%), whereas softness is based more on detailed attribute information (81.8%). That is, consumers rely more on detailed attribute information to evaluate
Notes: The brand’s score on each attribute is 5.7, but consumers use different sources to develop their evaluations.

Figure 3.1: Sample Decomposition Across Different Attributes

softness. Thus, a manager would know that there is something in the physical features or formulation of the product that leads consumers to believe that the brand is soft, instead of a general reputation for “softness.” If, instead of positive beliefs, only 12% of consumers believed the brand to be soft, understanding the source of those beliefs could lead directly to remedial action. If the poor belief were based on physical attributes or ingredients, then those could be changed. But if the poor belief were based on a general brand impression, then perhaps only the brand’s message or image would have to change, and not the physical formulation.

This example is intended to demonstrate that understanding the varied sources on which consumers draw to develop their brand beliefs clearly can help managers make
better decisions by directing their actions toward the proper source of consumer brand beliefs. Later I will address as an empirical issue whether companies should want consumers to base their evaluations more on either detailed attribute information or high-level brand information.

3.2.2 Prior Theoretical Literature

Prior research and theory has attempted to address the issue of when consumers should be expected to rely on high-level or detailed information. Alba and Hutchinson (1987, p. 420-21) note that “experts should temper halo effects with more detailed evaluation” and that “experience increases analytic processing and decreases reliance on holistic processing.” These statements imply that as consumers gain experience with particular brands, their brand beliefs may be based more on the detailed attribute sources than on the high-level brand source.

However, Bettman and Park (1980, p. 237) cite prior research indicating that “greater knowledge and experience is associated with increased brand [vs. attribute] processing.” Van Osselaer and Alba (2000, p.1) suggest that if consumers first learn about benefits through associations with a particular brand, they may “ignore the underlying attributes.” Sujan (1985) notes that as consumers acquire information about a brand (attributes, experiences, images, etc.), this information is “reviewed, evaluated and combined to yield an overall evaluation” (p.31). I refer to the result of this process as a
consumer’s “rolled-up” evaluation of a brand. Together, this previous research implies that as consumers gain experience with particular brands, their brand beliefs may be based more on the high-level brand sources than on the detailed attribute sources.

Heilman, Bowman and Wright (2000, p.139) find empirical evidence supporting the idea that consumers who are new to a market are driven by two competing forces: “consumers’ desire to collect information about alternatives and their aversion to trying risky ones.” These forces produce three stages of consumer purchasing. The first stage is an information collection stage characterized by focusing their choices on well-known brand names. In an effort to gain additional information about what attributes or ingredients lead to desired benefits, consumers expand their search to lesser-known brands in the second stage. These first two stages help consumers learn which brands provide the greatest utility and those brands become preferred in the third stage. These findings suggest that the extent of category involvement may directly impact the degree to which consumers rely on high-level brand or detailed attribute information, with high reliance on brand information early and late in the process, and high reliance on attribute information in-between.

Consistent with this discussion are the ELM (Petty and Cacioppo 1984) and HSM (Chaiken 1980) models that generally state that both motivation and ability are required for individuals to engage in more elaborative (ELM) or systematic (HSM) processing. Given a lack of motivation or ability, consumers may rely more on whatever information
is most easily accessible, possibly an overall impression of the brand based on consistent positioning linking a brand with a specific benefit (e.g., FedEx and “overnight shipping”) or their rolled-up evaluation, rather than on detailed attribute-level information.

The theory and results from previous research suggest that consumers may draw on both sources equally, or rely on one more than the other. What is important for my investigation is to determine the relative contribution of the brand and attribute sources to consumer brand beliefs, and I subsequently provide evidence that my procedure is able to accurately reflect the relative contribution of these latent mental sources to the development of consumer brand beliefs.

I note that my research does not address how brand-related information (high level or detailed) is actually encoded and stored. Those processes certainly lead to the development of the sources that are the focus of this investigation, but I have no process variables in my model. My goal is to understand the use of those sources. Dillon, et al. (2001) established the existence of the high-level brand and detailed attribute sources and provide the theoretical justification for the decomposition. I use the fact that these sources exist to help companies address an important managerial question.

In the next section, I describe my model and discuss some estimation issues. In the remaining sections, I describe the results and findings that resulted from my collaboration with P&G, in which I applied my model to consumer survey data from more than 60 brands across 15 markets (Table 3.1). I also develop a measure of brand equity based on estimates of consumers’ use of high-level brand information from my model.
(brand→benefit loadings) and show that my brand equity index correlates highly with a much more complex brand equity measure developed by P&G. Finally, I discuss some managerial implications and directions for further research.

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<td>363</td>
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<td></td>
<td></td>
<td></td>
<td>Care Less about Brand</td>
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Table 3.1: Data Description.
3.3 The Model

The model that identifies the mental sources that consumers use to develop their brand beliefs is based on a conceptual framework that assumes consumer beliefs about the benefits that brands deliver come from two mental sources: one related to high-level brand information and the other to detailed attribute information.

In Figure 3.2, I provide an overview of the conceptual model based on three benefits (manifest variables), represented by rectangles, for two brands. The rectangles...
represent consumers’ brand-benefit beliefs, that is, the raw binary data (i.e., the “checks” that consumers provide on the survey). The top ovals represent latent brand sources. These sources are the highest-level (i.e., top-of-mind) and/or most easily accessible brand associations in memory. The source may be composed of either a “rolled-up” evaluation or an association built over time through effective positioning (e.g., FedEx and “overnight delivery” or Volvo and “safety”). The bottom ovals represent latent attribute sources. These sources are the ingredients, attributes or features that give rise to particular benefits, such as the ingredient bleach providing the benefit of whitening.

Heavier overall reliance on the detailed attribute source would result in an increase in the variance of the reported beliefs across brands, thereby demonstrating consumers’ discernment among the performances of different brands for that particular benefit.

The parameters of interest are the loadings from the high-level brand ($\beta$s) or detailed attribute ($\alpha$s) sources to the benefits (brand $\rightarrow$ benefit or attribute $\rightarrow$ benefit loadings). These loadings indicate the degree to which consumers rely on high-level brand or detailed attribute information when they provide their brand beliefs on the survey. The brand $\rightarrow$ benefit loadings will be used later as part of my brand equity index.

Because all attributes are related, due to their inclusion in the same category, I allow the attributes to be correlated. I discuss below why I assume the brand factors are not correlated. Error terms exist for each manifest variable. For identification purposes, I set the variances of the latent variables (brand and attribute sources and error terms) to 1.00 and estimate the direct paths.
Dillon and colleagues (2001) have presented a constrained components model that determines the degree to which consumers rely on two similar mental sources to provide brand ratings\(^{12}\): BSAs (detailed attribute sources) and GBIs (high-level brand sources). But Dillon and colleagues (2001) constrain the brand source→benefit loadings to be equal across benefits within a brand (i.e., \(\beta_1 = \beta_2 = \beta_3\)\(^{13}\)). In my model, I estimate separate coefficients (\(\beta_i\)’s) for each brand→benefit loading (Figure 3.2). As stated above, I believe that consumers may rely on the high-level brand source to provide beliefs related to a brand’s well-known reputation (e.g., Volvo as a safe brand), but rely less on that same source to provide beliefs about benefits that are unrelated to a brand’s reputation (e.g., Volvo’s quietness of ride).

The issue of constraints is a testable hypothesis. I ran the model with the brand→benefit loadings constrained to be equal as well as unequal (Table 3.2). I found mixed (mostly poorer) results with the constrained model and consistently robust results with the unconstrained model. In nearly half of the cases, the constrained model did not converge; in other cases, the constrained model converged, but produced poorer fit statistics; and finally, when the constrained model converged and produced equivalent or even slightly better fit statistics (in only one case, U.S. Paper Product 1), the parameter estimates of the brand→benefit loadings under the constrained model were usually not within the 90% confidence interval of the unconstrained estimates.

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\(^{12}\) Dillon et al.’s (2001) model was based on decomposing scale data, not binary (check-box) data.

\(^{13}\) Dillon et al. (2001) did offer an alternative model where the loadings (GBI) for hedonic attributes were constrained to be equal across those attributes and the loadings (GBI) for preventive attributes were constrained to be equal across those attributes, but the loadings (GBI) for the preventive and hedonic attributes were allowed to be different across the two groups of attributes.
<table>
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* Estimated under maximum likelihood in RAMONA run for 500 iterations.

Table 3.2: Comparison of constrained vs. unconstrained results.
In fact, in the U.S. Paper Product 1 market, 84 of 90 constrained brand benefit loadings were outside of the range of the unconstrained 90% confidence interval. Further, I averaged the unconstrained estimates (I use this value subsequently) and found that nearly half of the estimates (across the 9 markets that produced results) were outside the 90% CI of the constrained estimates. These results suggest that the constrained model poorly captures the differential effect of the brand source on perceptions of benefits – even as an average – as suggested in the theoretical argument above. Thus, I conclude that empirically, the constrained brand effect model produces less stable and less informative results, and an unconstrained brand effects model is preferable. As I argued above this more flexible structure (allowing for separately estimated $\beta_i$’s) is appropriate because, overall brand impressions may be related only to particular benefits and not uniformly impact benefits that are unrelated to a brand’s overall impression.

3.3.1 Ratings Scales Versus Check Boxes

The model developed by Dillon and colleagues (2001) uses ratings data that frequently has been collected to evaluate brand attributes, such as the seven-point Likert scale. One practical problem of this type of data is that as the number of brands and attributes increase, such scales become both time consuming to administer and taxing on the respondent. As a result, many companies (e.g., Kodak, P&G, Frito-Lay, the market research firm IPSOS) have begun to collect ratings information using a check box format,
in which respondents simply put a check in a box if they believe the brand being
evaluated provides a particular benefit; they leave the box blank if it does not. Therefore,
rather than having interval data to analyze, the P&G data are binary (0/1).

The input for my CFA model is a correlation matrix. Rather than a standard
Pearson correlation, I could calculate a polychoric correlation (Olsson 1979) on the
binary data, but the Bayesian data augmentation procedure proposed by Edwards and
Allenby (2003) has superior small sample properties over polychoric correlation, and the
correlation matrix generated is guaranteed to be positive definite, overcoming the
polychoric procedure’s major limitation.

3.3.2 Simulation Studies

I tested Edwards and Allenby’s (2003) Bayesian procedure using simulated data,
replicating their results and finding, in addition, that it offers better parameter recovery
properties than does the polychoric correlation. The results from the simulation studies
indicate that by combining Edwards and Allenby’s (2003) procedure with the proposed
model I can correctly characterize the relative reliance on the brand and attribute sources.

To test the model, I simulated three data sets with known population values \( \Lambda \)
(Table 3). For each set of parameters, I generated a data set that consisted of 500
simulated observations \( z \) according to:

\[
(1) \quad z = \Lambda u + e
\]
where \( z \) is a length \( ab \) vector of simulated data for \( a \) attributes and \( b \) brands, \( u \) is an \((a + b)\) dimensional random multivariate normal \( N(0, I) \), and \( e \) is a scaled \( a \times b \) dimensional random measurement vector \( N(0, I) \).

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85
I generated continuous data (mean = 0), then recoded all values greater than 0 as “1” and all values less than or equal to 0 as “0”. The first two data sets include four brands and six attributes, whereas, in a replication of Dillon and colleagues’ (2001) simulation studies, the third data set includes five brands and four attributes with the identical population parameters stated in their article. Data set 1 assumed equal brand parameter values (i.e., equal brand → benefit loadings for all paths within a brand), whereas data sets 2 and 3 assumed unequal brand parameters. The model estimated for each set had the same structure as the path diagram described in Figure 3.2.

To evaluate the performance of the model, I performed three tests on each data set and report the results in Table 3.4. The first test represents the results that would occur if continuous (rather than binary) data were available. To accomplish this, I ran the model on the (Pearson) correlation matrix generated directly from the continuous data prior to recoding. I note that my model performed better than Dillon and colleagues’ (2001) model on the mean absolute error (MAE) and mean absolute percentage error (MAPE), the only comparable statistics available from their work. For the second test, I ran the model with the correlation matrix generated by Edwards and Allenby’s (2003) procedure computed from the recoded binary data. The procedure was run for 10,000 iterations, the first 5000 were burned off and then every tenth observation thereafter was collected for computation.\textsuperscript{14} In the third test, I ran the model with the polychoric correlation matrix computed from the binary data. The model fit, as indicated by RMSEA values, was the lowest in the first test, which was based on the continuous data, and, as predicted by

\textsuperscript{14} I used the same procedure for all runs of the P&G data as well.
<table>
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<td>.000–.017</td>
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<td>60%</td>
<td>44%</td>
<td>85%</td>
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<td>M.A.E.</td>
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<td>.0709</td>
<td>.092</td>
<td>.0445</td>
</tr>
</tbody>
</table>

Notes: RMSEA = root mean square error of approximation, MAE = mean absolute error, and MAPE = mean absolute percentage error.

*Dichotomous data was run 10,000 times, saving every 10th observation from the last 5000 iterations.

** This data set produced a polychoric correlation matrix that was not positive definite due to several pairwise correlation estimates of zero.

Zeros were replaced with .0000001 before running RAMONA.

Table 3.4: Results of Simulation Studies
Dillon and colleagues (2001), produced a “nearly perfect fit,” with RMSEA values near .000. In support of Edwards and Allenby (2003), I find that their procedure outperformed the polychoric correlation for all measures except for MAE and MAPE in the third set of data. For all data sets, the Edwards and Allenby (2003) procedure resulted in superior model fit over the polychoric results, as is indicated by the lower RMSEA scores and higher hit percentage, which I calculated as the percentage of times the population parameter value fell within the 90% confidence interval of the parameter estimate.

In summary, the results from the simulation indicate that the proposed model and procedure can recover known population parameters and therefore correctly characterize the relative contribution of the brand and attribute components. With this finding, I am confident that I will be able to determine whether consumers rely on brand or attribute sources to develop their evaluations of brands and to do so across categories and countries in which P&G competes.

For their data augmentation procedure, Edwards and Allenby (2003) created a latent normal variable $z_k$ for each respondent $k$ on the basis of each respondent’s binary responses $y_k$ and the parameter $\alpha$ as part of a Markov chain:

\begin{align}
(2) \quad & z_k \mid y_k, \alpha \sim \text{truncated normal}(\alpha, 1) I_{(-A,A)}(\alpha), \text{ and} \\
(3) \quad & \alpha \mid \{z_k\} \sim \text{normal}(\bar{z}, 1/n) I_{(-A,A)}(\bar{z}),
\end{align}

where $n$ is the number of respondents, $z_k$ is restricted to positive if $y_k = 1$ and to zero or negative if $y_k = 0$, a local uniform prior $\alpha \sim U(-A,A)$ is assumed, and $I(\cdot)$ is the indicator function.
They assume that each binary observation (0 or 1) provided by a respondent is based on a latent continuous scale and any “displacement effect” caused by bias or halo effects would result in a shift in the unobserved latent continuous scale, which would change the probability that an individual would check the box. *Positive* bias or halo effects would result in a larger number of checks, and this larger number of checks would translate directly into the augmented data produced by the Edwards and Allenby (2003) procedure. I describe the theory and procedure below.

If a consumer holds an overall positive (negative) evaluation, his or her ratings of a particular benefit may be biased, i.e., shifted upward (downward) due to these associations, as demonstrated in Figure 3.3.

![Diagram](image)

Figure 3.3: Latent continuous representation results in binary observation
In this figure, the respondent’s unobserved mental rating has shifted from a 2 to a 4 based on positive “halo” effects, or other positive overall brand associations. The vertical dotted line represents this respondent’s threshold that divides the scale into two regions, “generally adequate” on the right (resulting in a “check,” or 1, in a “pick any” format) and “generally inadequate” on the left (resulting in no check, or 0). For example, consider the following statement that could be found on a survey evaluating consumers’ perceptions of detergent brands, “Tide brightens my colors.” Tide would need to be perceived as performing somewhere above the individual respondent’s threshold in order for him or her to check the box. If halo or other positive brand effects exist among a large number of consumers, I would expect to find a larger number of respondents whose evaluations surpass their thresholds and thus more respondents checking the box for this benefit.

Given the fact that underlying each binary observation (0 or 1) is a latent continuous scale (e.g., Figure 3), the Bayesian data augmentation procedure starts with the assumption of individual-specific threshold levels and that a check means that the respondent believes that the brand performs adequately (surpasses his or her threshold). It then assumes that the more respondents check the box, the more favorable are evaluations generally; i.e. there is a direct relationship between the number of respondents that checked the box and the overall favorableness of their beliefs.

The augmented data ($z_k$) are drawn from a truncated normal distribution that is shifted up or down by a location parameter $\alpha$ that varies according to the number of checks (Equation 1). The indicator function guarantees that the augmented data ($z$) are
always drawn from above zero if the box is checked and below zero if not checked, but what varies is the size of the area from which a z is drawn. If a brand receives a large number of checks across respondents for a particular benefit, $\alpha$ shifts upward, increasing the positive range from which a particular respondent’s z may be drawn (if that respondent checked the box).

Figure 3.4 illustrates the situation where a brand receives a large number of checks across respondents. $\alpha$ is shifted upward from $\alpha_0$ to $\alpha_n$, shifting the distribution from curve a to curve b, and reducing the range from which negative z’s are drawn for respondents that did not check the box (i.e., keeps them near zero as can be seen in the small shaded region), and increasing the range from which positive z’s are drawn for respondents that did check the box. A large number of checks increases the value of $\alpha$ and causes the distribution to shift from a to b.

Figure 3.4: A large number of checks for a particular benefit increases the value of $\alpha$ and causes the distribution to shift from curve a to curve b.
The Allenby and Edwards (2003) procedure explicitly captures any “displacement effect” due to bias or halo effects by assuming that positive “halo” or other positive associations will increase the number of 1’s in the data (“checks”), and vice versa for negative bias. When positive beliefs predominate, z’s that correspond to “checks” will be drawn from a larger area, resulting in augmented data that not only retain a direct mapping to the original binary data, but also reflect the overall favorableness of the responses (i.e., potentially larger absolute values for positive z’s than for negative z’s). \(^{15}\) I use the correlation matrix based on the augmented data \(z_k\) that is generated by the Edwards and Allenby (2003) approach as input for my CFA model.

3.3.3 Model Reliability and Stability

The proposed model is similar to multi-trait multi-method (MTMM) models from statistical psychology, in which the brand source relates to the method factor and the attribute source relates to trait factors. The MTMM literature indicates that the stability of estimates is a common problem and suggests four approaches to improve stability.

First, Marsh (1989) suggests that the method (brand) factors should not be correlated. I adopt this suggestion in my model specification due to the fact that as brands develop unique identities, it is unlikely that the highest-level association tied to

\(^{15}\) There is another advantage of using this procedure on check-box data. Respondents may prefer to use different regions of the scale when providing their responses. This heterogeneity in scale usage presents a problem for 1-7 rating scale data, but for “pick any” or checkbox data, it can be assumed that a “check” implies that the respondent believes that the brand’s performance has crossed some individual-specific threshold level and regards the brand’s performance as at least adequate, resulting in augmented data that has been “re-centered” according to each respondent’s specific threshold.
one brand (e.g., “overnight” for FedEx) is related to the highest-level association tied to another (e.g., “Brown” for UPS). If not, this would suggest poor positioning strategies. However, the attribute factors are correlated precisely because consumers are likely to associate attributes with each other (e.g., engine size and horsepower).

Second, Marsh (1989) also suggests that the brand source might be replaced with correlated errors to eliminate the brand source and focus on attribute→benefit loadings. However, because I am interested in both brand→benefit and attribute→benefit loadings and because this approach does not estimate a parsimonious “brand effect” for each benefit question, I do not adopt this approach.

Third, Millsap (1992) suggests that the brand→benefit loadings should be constrained to be equal across attributes. Dillon and colleagues’ (2001) procedure follows this recommendation. However, it was shown above that such a constraint is not appropriate because, as the Volvo example demonstrates, the impact of brand can differ across attributes (i.e., impressions of Volvo’s styling may not be influenced by its reputation for safety). Therefore, my model specification allows for freely estimated brand→benefit loadings.

Fourth, Eid (2000) suggests estimating brand parameters for (B – 1) number of brands. This suggestion attempts to allow for correlated brands, which is not desirable in my analysis. Furthermore, because this suggestion would provide only for brand→benefit loadings relative to a base brand and would not be comparable across categories or markets, I do not adopt it in my model.
Overall, Marsh (1989) notes that problems associated with MTMM models are most serious for those that posit correlated method factors (brand sources). My brand sources are not correlated. Some brands are known for, or are positioned on, specific benefits. For example, Michelin is positioned on safety but not on appearance or price. Therefore, one would expect that the Michelin brand→benefit loading on safety would be different (higher) than the brand→benefit loadings on appearance and/or price. Thus, I suggest that my model maintains ecological validity as it more closely reflects what can be expected in the “real world.”

While the correlation between brand and attribute sources is set to be zero, I recognize that the brand and attribute sources may be related. A specific brand and a specific benefit are considered jointly, both when the respondent is asked/responds to a question and by the methodology (c.f., Kumar and Dillon 1992, p.53). Note the different parameter loadings for each brand→benefit and attribute→benefit path in Figure 3.2. The Michelin example provided above demonstrates why this is the case. I recognize that multiplicative models such as those already developed for MTMM analysis (e.g, the direct product [DP] models [Browne 1984, 1989; Swain 1975]), would explicitly account for the jointness between the brand and attribute sources. However, this class of models would not provide the parameter estimates that allow me to compare the two components. As Kumar and Dillon (1992 p. 61) state, “it is not possible to obtain unique estimates of

\footnote{Of course, this would apply to the attributes as well since not all brands might be viewed as equally strong on specific attribute→benefit linkages and therefore these values should not be constrained to be equal. For example, for cereals the benefit of ‘healthy’ would be much stronger for a brand that is high in fiber or low sodium (attributes) vs. a brand that is not (and is high in sugar or calories).}
the trait [attribute] and method [brand] components of variation in each observed measure, or estimates of correlation between specific pairs of traits and/or methods [from the class of DP models].”

Much of what has appeared in the literature concerning MTMM has focused on small cases/situations (e.g., 3 traits and 3 methods in Bagozzi and Yi [1993]; 3 methods and 2 traits in Bollen and Paxton [1998]; 2 methods and 3 traits in Kumar and Dillon [1992]) and such specifications have inherent problems due to their dimensionality (Kenny 1979). My analysis includes at least five brands (as many as nine) and ten attributes, and the sample sizes are more than 300 in all but 2 of the 15 markets, which provide increased stability. Table 3.5 summarizes the performance of my proposed model with respect to the number of iterations, number of negative parameter loadings, and number of times RAMONA in SYSTAT for Windows (Browne and Mels 1998) constrained a correlation to one (1.00)\(^\text{17}\). Note that no negative variances (Heywood cases) were encountered, and all 27 data sets converged.

The results reported in Table 3.5 provide evidence that the procedure is stable. In order to investigate stability more fully, I re-ran each of the 15 full data sets three (3) times using different starting values each time. Table 3.6 shows that regardless of the starting values, the parameter estimates were nearly identical (i.e., off by no more than .001). Even in cases where RAMONA constrained correlations at 1.00, the results based on random start show that the identical parameters were constrained. RAMONA found nearly the same solution in all cases, providing evidence for stability of the parameter

\(^{17}\) RAMONA does not allow negative variances (Heywood cases) or correlations to exceed 1.00. It constrains these parameters at the “boundary” and continues with the estimation.
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<td></td>
<td>U.K. 03</td>
<td>5</td>
<td>273</td>
<td>.000</td>
<td>(.000, .000)</td>
<td>1080</td>
<td>22</td>
<td>1 / 150</td>
<td>-.074</td>
<td>3 / 150</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>U.K. 04</td>
<td>5</td>
<td>311</td>
<td>.016</td>
<td>(.003, .022)</td>
<td>1080</td>
<td>39</td>
<td>0 / 150</td>
<td>n/a</td>
<td>0 / 150</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Youthful</td>
<td>106</td>
<td>.000</td>
<td>(.000, .000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mature</td>
<td>205</td>
<td>.000</td>
<td>(.000, .000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Purchased Leading Brand</td>
<td>104</td>
<td>.000</td>
<td>(.000, .000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Did Not Purchase Leading Brand</td>
<td>207</td>
<td>.000</td>
<td>(.000, .000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

* RAMONA restricts correlations to be <=1, but only 2.3% of all estimates would have been >1
Heywood cases not allowed in RAMONA, but none were prevented
The model was identified and converged in all 27 markets/segments
Only two RMSEA 90% CI's had a range >= .01
40.7% of markets/segments had negative loadings, but only 2.17% of estimates were negative
The largest negative estimate in 55% of the cases was smaller than .01, which would not significantly affect the average across 10 benefits

Table 3.5: Data Description and Model Results Across Markets.
<table>
<thead>
<tr>
<th>Category</th>
<th>Country</th>
<th>Number of Brands</th>
<th>n</th>
<th>Sum of Absolute Residuals</th>
<th>Largest Absolute Residual</th>
<th>Sum of Absolute Residuals</th>
<th>Largest Absolute Residual</th>
<th>Sum of Absolute Residuals</th>
<th>Largest Absolute Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper Product 1</td>
<td>U.S.</td>
<td>9</td>
<td>876</td>
<td>.512</td>
<td>.03</td>
<td>.513</td>
<td>.03</td>
<td>.516</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>U.K.</td>
<td>6</td>
<td>407</td>
<td>.005</td>
<td>.001</td>
<td>.004</td>
<td>.001</td>
<td>.004</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Germany</td>
<td>9</td>
<td>373</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td>Paper Product 2</td>
<td>U.S.</td>
<td>6</td>
<td>949</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>U.K.</td>
<td>6</td>
<td>405</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Germany</td>
<td>5</td>
<td>375</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td>Oral Care</td>
<td>U.S.</td>
<td>5</td>
<td>350</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Germany</td>
<td>9</td>
<td>311</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>China</td>
<td>8</td>
<td>991</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Italy 02</td>
<td>7</td>
<td>432</td>
<td>.013</td>
<td>.001</td>
<td>.013</td>
<td>.001</td>
<td>.012</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Italy 03</td>
<td>7</td>
<td>314</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
<td>.014</td>
<td>.001</td>
</tr>
<tr>
<td>Skin Care</td>
<td>U.S. 03</td>
<td>5</td>
<td>287</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.007</td>
<td>.001</td>
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<td>U.S. 04</td>
<td>5</td>
<td>900</td>
<td>0</td>
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<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>U.K. 03</td>
<td>5</td>
<td>273</td>
<td>.003</td>
<td>.001</td>
<td>.002</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>U.K. 04</td>
<td>5</td>
<td>311</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Notes: In all cases where boundary conditions existed with standard start values, the identical parameters were constrained to 1 with random starts.

Table 3.6: Results of Random Starts Investigation
estimates reported subsequently. Finally, I comment on the choice of CFA over other techniques. I believe it is appropriate to use a CFA model because prior literature has demonstrated the applicability of two-factor models to this type of problem (e.g., Walker et al. 1994), and Dillon and colleagues (2001) have produced empirical evidence to support the existence of the two latent sources I include in my model. Unlike prior researchers, who were seeking an appropriate representation for the underlying structure, I want to apply my model to the previously demonstrated structure and thus am in a confirmatory mode.

As Dillon and colleagues (2001) show, the response of any consumer to a series of brand rating questions can be represented as an additive function of two sets of latent factors:

\[ x_{nji} = \alpha_{ji} \xi_{ni} + \alpha_{j} \xi_{nj} + \epsilon_{nji}, \]

where \( x \) represents responses from consumer \( n \) for brand \( j \) and attribute \( i \), \( \xi_{nj} \) represents consumer \( n \)’s brand factor score for the \( j \)th brand, and \( \alpha_{j} \) gives the weight of \( x_{nji} \) regressed on brand \( j \)’s latent brand factor. Likewise, \( \xi_{nij} \) represents consumer \( n \)’s attribute factor score for the \( i \)th attribute, and \( \alpha_{ji} \) gives the weight of \( x_{nji} \) regressed on attribute \( i \)’s latent attribute factor. Thus, the model clearly can be estimated with a CFA approach (Walker et al. 1994). Anderson and Rubin (1956) and Shapiro (1985) even suggest that if a model of the type proposed has four or more brands and four or more attributes, the solution will almost always be unique. In addition, “with large sample sizes, random errors of measurement, and a correctly specified model, a CFA model will, for all intents and

---

18 It should be noted that constrained components analysis (the procedure used by Dillon et al. 2001) can produce loadings that are biased upward (Widaman 1990, 1993).
purposes, provide a perfect fit” (Dillon et al. 2001, p. 420). As a measure of model fit, I report the root mean square error of approximation (RMSEA) statistics (Steiger and Lind 1980) for each market. A measure of “discrepancy per degree of freedom,” RMSEA penalizes models that add complexity without substantially improving the population discrepancy function value. Another advantage of the RMSEA is the ability to calculate confidence intervals and thereby suggest how precise the measure of fit is. As a general rule, RMSEA values of less than .08 suggest acceptable fit, those less than .05 suggest close fit (Steiger and Lind 1980).

3.3.4 Estimation

I used RAMONA in SYSTAT for Windows (Browne and Mels 1998) to estimate the following confirmatory factor model:

\[
\Sigma = \Lambda_B \Phi_B \Lambda_B' + \Lambda_A \Phi_A \Lambda_A' + \Psi,
\]

where \( \Sigma \) is the ab × ab correlation matrix generated using Edwards and Allenby’s (2003) procedure on the binary (check box) data for a attributes and b brands, \( \Lambda_B \) is the brand component loading matrix ( \( \Lambda_A \) for attributes), \( \Phi_B \) is the brand component correlation matrix ( \( \Phi_A \) for attributes), and \( \Psi \) is the random error component (unique variances in factor analysis). The brand component correlation matrix \( \Phi_B \) is an identity matrix that implies uncorrelated brands. The results of interest from the estimation procedure
include the parameter values for the paths between the brand or attribute factors (ovals) and the consumer brand ratings (rectangles), that is, brand→benefit and attribute→benefit loadings, as shown in Figure 2.

It is important to note that the proposed model is not a predictive model but instead is descriptive and diagnostic and therefore should be used to augment analyses of raw consumer survey data. Raw consumer survey data tell only part of the story, namely, how favorable brand beliefs are, but not the source of those beliefs. The ability to estimate brand→benefit and attribute→benefit loadings thus provides managers with insight into the mental sources that consumers use to provide their brand beliefs.

3.4 Data

I analyzed consumer brand beliefs data for all major brands\(^\text{19}\) in four categories—oral care, skin care, and two paper products categories—across five countries: the United States, United Kingdom, Germany, Italy, and China (Table 1, Part A). Data for all categories were not available for all countries, but the total data set included 15 country–category combinations (markets). Each market included responses from anywhere between 273 and 991 consumers \((\bar{n} = 530)\) and five to nine brands. As stated previously, the data were collected in a check box fashion as part of P&G’s ongoing brand-tracking research.

\(^{19}\) Data include both P&G and non-P&G brands. Results presented subsequently may be for P&G or non-P&G brands, but cannot be identified for confidentiality reasons.
Drawing from Keller’s (2003, p. 76) consumer-based brand equity pyramid, I focused on the 10 most important “performance” benefits, selected on the basis of the importance scores derived by P&G from its analysis of the benefits in each category. Although research indicates that consumer decisions are based on more complex factors than simple performance benefits (Keller 1993, 2003), I focus on performance benefits for three reasons. First, Keller (2003) suggests that “performance” and “judgment” benefits (on the lowest level of the pyramid) are antecedents to higher-order measures (higher levels of the pyramid) such as “images” and “feelings.” Second, findings related to performance benefits are the most managerially actionable; that is, managers can respond straightforwardly to consumers’ statements regarding the strength or absorbency of a paper product, whereas they have a much harder time when confronted with consumer opinion that the brand does not make them “feel special,” based on an overall brand impression. Third, I will demonstrate in the results section that the latent brand source is able to capture the higher-level impact of the brand (such as feelings and imagery) on consumers’ beliefs about how well brands perform on the basic performance benefits.

3.5 Results

In Table 3.5 (page 96), I listed the test statistics for each data set (and segment) run for each market studied. The procedure described above was run for 10,000 iterations; the first 5,000 were burned off and then every tenth observation thereafter was
collected for computation. Table 3.5 suggested excellent model fit, as is indicated by the low RMSEA values; i.e., all points within the 90% confidence interval are below the .05 value that indicates close model fit (Steiger and Lind 1980).

To generate additional support for the model beyond the previously described simulation studies, I next describe two scenarios for which I formulate a priori hypotheses and evaluate actual results to demonstrate that the model performs as expected.

3.5.1 Scenarios

**Scenario 1: Brand → benefit loadings should be higher for consumers who say they care more about brand than those of consumers who say they care less about brand**

The data that pertain to one of the U.S. paper products categories include usable responses from 867 consumers. The median score on a 10-point scale, asking consumers the degree to which the brand name is an important factor in choosing an offering in this category and anchored by “care a great deal” and “don’t care at all,” was 8. I used a median split of the data to separate the respondents into those who said they cared more about brand (363) and those who said they cared less (353); I did not analyze the data from those 151 respondents who indicated that their level of concern was an 8. As expected and as I show in Figure 3.5, the brand component is greater for those who said they cared more about brand (top chart) than for those who said they cared less (bottom chart), even when overall concern is very high (647 out of 867, or 75%, rated their concern higher than a 5).
Figure 3.5: Decomposition for consumers who differ in the degree to which they care about “Brand” in their selection of offerings in Paper Products 1 category
Scenario 2: When store brands are labeled in a question simply as “store brands,” consumers have difficulty retrieving detailed attribute-level information

In some markets, specific brand names were used to identify store brands (e.g., Ol’ Roy dog food at Wal-Mart). In other cases, surveys asked consumers to rate a brand listed as “store brand.” With the use of the phrase “store brand,” I do not expect consumers to have enough information to evoke detailed attribute-level information, so the brand→benefit loading should be much larger than the attribute→benefit loading. In Figure 3.6, I demonstrate that when consumers were asked about a “store brand” in the second U.S. paper product market, the average brand→benefit loading across the 10 most important attributes is more than twice as large as the attribute→benefit loading.

Figure 3.6: Decomposition for “Store Brand” in U.S. Paper Products 2 category
The findings from these two scenarios indicate that the model generates results that are consistent with expectations when such *a priori* expectations exist. Next, I present two case examples that demonstrate the managerial usefulness of the proposed model.

### 3.5.2 Case Examples

**Case 1: Using Brand Component Scores as Input to Consumer-based Perceptual Maps**

Multinational packaged goods companies such as P&G operate under general assumptions about how different markets around the globe are more or less alike. Some assumptions are embedded in organizational structures that locate brand groups from European or Western markets together, those from Asian markets together, and so forth. However, P&G has not been able to determine empirically the extent to which markets across countries are similar in the way that consumers in those markets view its brands.

Mapping the average brand→benefit loading and P&G’s equity score for the same brand across multiple countries reveals how these measures change across countries. Figure 3.7 shows the relationship between the brand→benefit loading estimated from my model and P&G’s equity score in the oral care category for brands across countries. Each data point represents an average brand→benefit loading across the 10 most important benefits for a brand and its associated equity. In Figure 3.7, I label the position of the leading U.S. brand in the oral care category for the United States, Italy, and Germany. Geographic proximity seems to have little relation to brand→benefit loading or equity scores. I find that the leading U.S. brand is evaluated similarly in the United States and
Italy in terms of its brand→benefit loading and equity but has a much lower brand→benefit loading in Germany. Thus, it may not be appropriate to assume that stronger similarities exist across categories among European markets rather than between certain European and U.S. markets in terms of how consumers evaluate brands.

Notes: Same brand is identified in three different countries where it is sold under the same name.

Figure 3.7: Correlation between average brand→benefit loading and P&G’s equity measure across countries in the Oral Care category
In Figures 3.8 and 3.9, I show the relationship between the average brand benefit loading and equity in the two paper products categories across countries. As Figure 8 displays, the U.S. and U.K. markets are similar in terms of brand benefit loadings for a brand in the second paper products category, but Figure 3.9 highlights the differences between these same markets in the first paper products category. Managers with information about the specific markets in question would be able to investigate the impact of competitive positioning and/or marketing executions across the markets to begin to understand the reasons for the across-country differences.

Figure 3.8: Correlation between average brand benefit loading and P&G’s equity measure across countries in the Paper Products 2 category
Figure 3.9: Correlation between average brand benefit loading and P&G’s equity measure across countries in the Paper Products 1 category.

These results call into question attempts to apply consistent marketing efforts to a product with a single world-wide brand name (e.g., global branding). The brand manager for the leading U.S. brand simply cannot assume that consumers’ views of that brand (in terms of either consumers’ reliance on the brand source or equity) are similar across
different countries. Neither can he or she assume that the U.S. market is most similar to the U.K. market across product categories. Different executions, or even strategies, may be required for the same brand in different markets.

Case 2: Investigating Brand Benefit and Attribute Benefit Loading by Usage

The application of the proposed model to data across consumers of different age or in different usage segments neglects the heterogeneity that may exist between those consumer segments. However, the model easily can be applied to subsets of data that represent managerially meaningful consumer segments to increase the level of diagnosticity. This was a question of particular interest to P&G for the skin care market.

The leading brand in the U.K. skin care market had nearly three times the share of its next competitor. Thus, I suspected that consumers who used the leading brand may have relied on different mental sources to provide their brand beliefs than did those that did not use the leading brand. As I show in Figure 3.10, consumers who purchased the leading brand relied more on the high-level brand source, whereas those who did not purchase that brand relied more on detailed attribute information. This result suggests that consumers who did not purchase the leading brand may have had specific reasons for their decision. According to P&G’s knowledge of the category, managers believe that some consumers prefer other brands for reasons such as allergies or skin type and therefore must draw on detailed attribute information about the brands when they provide their brand beliefs.
Figure 3.10: Results of brand beliefs decomposition by purchase behavior for leading brand in U.K. Skin Care market

3.6 Brand→Benefit Loading Relationship With Equity

I now turn my attention to the question of whether, from a firm’s perspective, larger brand→benefit or attribute→benefit loadings are associated with more positive outcomes. Dillon et al. (2001) suggest in the “General Discussion” section of their paper
that there is a link between their decomposition and equity. However, they do not investigate this idea empirically, and they provide no model or empirical evidence for this link. My main contribution is that I develop a brand equity index based on the brand → benefit loadings (βs) produced by the model described above (Figure 3.2). I not only develop a brand equity index based on the estimates provided by my empirical model, I also demonstrate that my index correlates highly with P&G’s proprietary equity measure.

Keller (1993, p. 2) states that “Customer-based brand equity occurs when the consumer is familiar with the brand and holds some favorable, strong, and unique brand associations in memory.” I suggest that the raw consumer brand beliefs data capture favorability, and that the brand → benefit and attribute → benefit loadings derived from my method described above provide information about the strength and uniqueness of brand associations (through the degree to which they influence brand beliefs). Building on this idea, I derive an index that will shed light on the issue of whether larger brand → benefit or attribute → benefit loadings are associated with more positive outcomes. For each brand within a market I create a brand component index (BCI):

\[ BCI = m \left[ \frac{b}{b + a} \right], \]

which represents the average estimated brand → benefit loading (b) divided by the sum of the average estimated brand → benefit and attribute → benefit loadings (a) and multiplied by the average number of “checks” (m) that a brand received across the 10 most important benefits. The product, a weighted value, indicates the relative contribution of the high-level brand and detailed attribute sources as consumers provide their brand
beliefs. P&G computes a proprietary measure of brand equity for all major brands in the categories in which it competes based on a large-scale consumer survey. To justify the usefulness of this index, I would want my measure to correlate very highly with P&G’s proprietary measure of brand equity. A strong positive relationship between the BCI and P&G’s measure of equity indicates that the brand→benefit loading is associated with more positive outcomes, whereas a strong negative relationship suggests that attribute→benefit loadings are associated with more positive outcomes.

Consider a situation in which two brands receive the same average number of checks across questions and the same equity score (analogous to the original scenario depicted in Figure 3.1). When graphed, the BCI would offset the two brands horizontally to the extent that the brand→benefit loadings differ between the brands. Thus, the BCI provides additional diagnostic information, beyond either the brand→benefit loading or the number of checks alone. I compare the BCI to P&G’s equity score.

In Figure 3.11, I provide the results of my analysis for the oral care category, which includes data for 21 brands across four countries.\textsuperscript{20} I find a strong positive relationship between the BCI and P&G’s equity measure, which indicates that in this market the

\textsuperscript{20} The data include repeated observations for brands in Italy during 2003 and 2004.
combination of greater brand→benefit loadings and a larger number of checks on the survey is associated with higher equity. In Table 3.7, I list the amount of variation in P&G’s equity scores accounted for by changes in the BCI across categories and countries.
### Table 3.7: Relationship between calculated Brand Index (BCI) and equity across categories and segments.

<table>
<thead>
<tr>
<th>Category</th>
<th>$R^2$</th>
<th>Slope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper Product 1</td>
<td>0.8483</td>
<td>362.99$^a$</td>
</tr>
<tr>
<td>Paper Product 2</td>
<td>0.8060</td>
<td>257.60$^b$</td>
</tr>
<tr>
<td>Oral Care</td>
<td>0.9133</td>
<td>364.45$^a$</td>
</tr>
<tr>
<td>Skin Care</td>
<td>0.4345</td>
<td>264.53$^b$</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td><strong>0.6264</strong></td>
<td></td>
</tr>
<tr>
<td>Skin Care 2003</td>
<td>0.9583</td>
<td></td>
</tr>
<tr>
<td>Skin Care 2004</td>
<td>0.8030</td>
<td></td>
</tr>
<tr>
<td>US Skin Care 2004</td>
<td>0.8987</td>
<td></td>
</tr>
<tr>
<td>UK Skin Care 2004</td>
<td>0.8166</td>
<td></td>
</tr>
<tr>
<td><strong>Overall Excl. Skin Care</strong></td>
<td><strong>0.8467</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Slopes are statistically similar at $\alpha=.05$ (two sided) in Toilet Tissue and Toothpaste; Paper Towels and Skin care.

In three of the four categories (two paper products categories and oral care), higher scores on the BCI are strongly associated with higher equity. Furthermore, these categories exhibit similar relationships between the BCI and equity; when data from the three categories are combined, the resulting $R^2$ of 0.8467 is only slightly lower than the average of the separate $R^2$ values from the three countries (0.8557). However, the $R^2$ value declines sharply when any skin care markets appear in the overall analysis.
Although the R\(^2\) values for the skin care market and the “overall” market are substantially below those for the oral care and the two paper products categories, I demonstrate in Table 3.7 that when the skin care market is analyzed by year and by country, the results again demonstrate the strong association found in the other three categories.

Table 3.7 indicates that the slopes of the second paper product and skin care categories are similar (\(t(\cdot.05,15)\) two sided = 1.04), and the slopes of the first paper product and oral care categories are similar (\(t(\cdot.05,20)\) two sided = .043). The slopes of the first and second paper product categories are not statistically similar (\(t(\cdot.05,15)\) two sided = 3.24). These differences in slope indicate a different functional relationship between my equity measure and P&G’s in the different categories (i.e., in some categories, it takes a larger jump in BCI to produce an equivalent gain in P&G’s equity score, though a strong positive relationship exists in all markets). I note that in any particular market it is possible to find a curve that fits the data better than a simple regression line, but no other curve provides superior results across all markets.

3.7 Discussion

3.7.1 Summary of Findings and Discussion

*Brand Level.* The sources of consumer evaluations of the same brand differ by country. The leading U.S. brand in the second paper products category has similar brand→benefit loadings across the United States, United Kingdom, and Germany. However, the leading U.S. brand in the first paper products category displays similar brand→benefit loadings
for the United States and Germany but very different loadings in the United Kingdom. Furthermore, the equity scores for the leading U.S. brand are very different as you look across countries. Equity scores for the leading U.S. brand in the second paper products category are similar in the United States and United Kingdom; those for the leading brand in the first paper products category are similar in the United States and Germany.

Therefore, brand managers cannot assume that consumers across countries draw on the same mental sources when providing their brand beliefs. Neither can they assume that countries are similar across categories. According to my findings, for example, it would be incorrect to assume that the U.S. and U.K. markets are always more alike than the U.S. and German markets.

Consumer Level. Brand benefit loadings differ by purchase and use behavior. They generally are higher for consumers who have purchased or used a brand than they are for those who have not. This finding implies that consumers who have not purchased or used a brand draw on more specific aspects of the brand (i.e., ingredients, attributes or features) to provide their beliefs, whereas those who have purchased or used a brand tend to draw on more overall brand impressions to provide theirs, which is consistent with research in consumer behavior that indicates that consumers prefer to rely on personal experience when they can (e.g., Hoch 2002) and roll up details to form a high-level brand impression (Sujan 1985). Those who decide not to purchase or use a brand may hold detailed information in their minds to justify their decision not to purchase or use that brand.
Overall, the suggested procedure provides insights at multiple levels. Brand managers can use it to evaluate their brand’s position relative to other brands in a particular market. Furthermore, they can identify other countries in which consumers draw on similar mental sources to evaluate the brand. This perspective can help managers execute a modified global brand management approach by tailoring their strategy to focus on high-level brand- or detailed attribute-level information where appropriate. Finally, it can help managers identify the sources of advantage that competing or leading brands may possess in various countries.

With respect to my new approach to measuring brand equity, the procedure is fundamentally different from that employed by P&G and is based on different theory. It is important to also note that my measure of brand equity is produced from only 10 questions from the “performance” box in Keller’s (2003) pyramid, while P&G’s system uses hundreds of questions from all six boxes. I provide a reliable measure of brand equity without requiring a lengthy survey or customized procedure.

3.7.2 Conclusions

This chapter provides managers with a model and recommended procedure for using the type of survey data they already may have to understand the sources of consumer brand beliefs better; it furthermore studies the impact of two different latent mental sources of consumer brand beliefs on P&G’s measure of equity. Thereby, it extends work by Dillon and colleagues (2001) methodologically, in that it enables the
brand source to influence consumer beliefs differently across survey questions and uses a Bayesian procedure to allow for the use of binary (0/1) data. My model also increases managerial insight with findings based on data from 15 markets and produces brand-level results that are based on general patterns across benefits rather than benefit-specific results. Finally, this chapter provides evidence that MTMM models may be appropriate when the number of brands, benefits and sample size are large.

I make two main observations based on the findings. First, the methodology described here can be used to augment an analysis of raw consumer brand beliefs, which only provide part of the story. The ability to decompose consumer brand beliefs into high-level brand and detailed attribute sources provides managers with insights into which latent mental sources consumers use to provide their brand beliefs. Second, the methodology provides useful descriptive and diagnostic measures. By using this methodology, brand managers can employ the brand beliefs data they already have to determine the sources of suspicious, interesting, or worrisome consumer brand beliefs and then investigate these sources for particular segments of interest (e.g., users versus nonusers). Furthermore, because brand managers routinely collect brand belief information on many brands in a category (in addition to their own), with this model, they can determine the sources of competitors’ brand beliefs. Theoretical and empirical evidence suggests that when consumers use detailed attribute information as the source of their brand-benefit beliefs, those brand-benefit beliefs are more vulnerable to competitive
attacks than are brand-benefit beliefs based on general brand impressions. Given this competitive tool, brand managers should be able to develop more effective communications strategies to help them develop stronger brands.

Finally, the results from 15 consumer markets indicate that managers should carefully consider whether attempts to apply consistent marketing efforts to a product with a single world-wide brand name are strategically appropriate. While some countries may tend to be more alike than others in some categories (e.g., the United States and United Kingdom in the second paper products category), they may be very different in others (e.g., the same countries in the first paper products category). The procedure described herein will enable managers to determine easily a dimension on which markets are similar or dissimilar, using just the simple survey data they already have collected.

3.7.3 Further Research

Although I have demonstrated the benefits of analyzing consumer brand beliefs survey data at the segment level, I recognize the potential 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 each consumer in the sample and thereby enable 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.
Dillon and colleagues (2001, p. 429) speculate that “for the nascent user, brand communications first work through high-level brand sources (GBIs) and then, with additional experience of a direct brand-usage nature, ‘transform’ into detailed attribute sources (BSAs).” While my data do not enable me to generate empirical support for this speculation, I suspect that the opposite direction is more likely. If you consider consumers’ use of the detailed attribute source similar to an “engineering perspective” (i.e., what is it, what does it do for me, and why should I care), and use of the high-level brand source as more indicative of a “relationship perspective” (trusting the brand without getting into the details), then it seems that consumers would start with an engineering perspective, and then with experience develop the trust in the brand name that would lead to a relationship. This would especially be true in the case of new brands providing new-to-the-world products, such as Swiffer, when it was first introduced. At first, consumers would be interested in the three questions mentioned above in an attempt to categorize the product (is it a broom, a sweeper, a mop, a duster…..?) At first, the name Swiffer would have very little impact on consumers’ beliefs about the brand. As consumers gain experience with the brand, hear good things about it from friends, etc., they may be willing to trust that anything under the Swiffer brand will be affordably effective at cleaning. Therefore, further research should capture variability in consumer involvement, experience, knowledge, and so forth, which would allow me to comment on the existence and direction of the shift in sources to/from high-level brand or detailed attribute information.
The proposed procedure also should be helpful for diagnosing the efficacy of an advertising campaign. Toward this goal, I suggest that companies should collect data that capture repeated evaluations of brands over time. 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 an ad campaign, 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 advertising can affect the sources of consumer brand beliefs. The brand→ 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.
CHAPTER 4

THE MODERATING EFFECT OF SOURCE OF PRIOR INFORMATION ON THE IMPACT OF NEW INFORMATION

4.1 Overview

The objective of the study described in this chapter is to understand the strategic implications of the mental sources of information consumers draw from to develop their beliefs about the benefits that brands deliver (brand beliefs), as described in Chapter 3. The general hypothesis is that the level of information that consumers currently use to develop their brand beliefs (high-level brand information or detailed attribute information) will moderate the impact of new information, such that a strategic advantage exists for brands when consumers currently use one of the sources instead of the other. Existing literature suggests that such a moderation should occur, but provides contradictory hypotheses about which current source will produce the anticipated strategic advantage. This study will provide evidence for the moderating effect and suggestions for strategic brand management.
4.2 Background and Rationale

As described in detail in Chapter 3, existing literature in cognitive psychology and marketing (e.g., Dillon, Madden, Kirmani and Mukherjee 2001) suggests that consumers can draw generally from a combination of mental sources to develop their brand beliefs: They may rely on high-level brand information (such as general brand impressions, positioning, or reputation) or detailed attribute information (such as the ingredients, features or attributes that a brand possesses that give rise to certain benefits) to develop their brand beliefs. Dillon, et al. (2001) develop a constrained components analysis to determine the degree to which consumers rely on each of the two sources and demonstrate their findings with data from three brands in the toothpaste category. Their research confirms empirically that the two sources exist, and they suggest that the results of their procedure can lead to a measure of brand equity.

Brand equity is associated in the marketing literature with the following positive outcomes (Keller 2002):

- Improved perceptions of product performance
- Greater loyalty
- Less vulnerability to competitive marketing actions and marketing crises
- Larger margins
- More inelastic consumer response to price increases and more elastic consumer response to price decreases
- Greater trade cooperation and support
- Increased marketing communication effectiveness
- Licensing opportunities and additional brand extension opportunities.
Chapter 3 describes research that I have conducted similar to that of Dillon, et al. (2001) using data from The Procter & Gamble Co. on four product categories in five countries around the world (15 total markets). The results of the analysis were used to produce a measure of brand equity consistent with that proposed by Keller (1993, p.2, emphasis added), which states that “Customer-based brand equity occurs when the consumer is familiar with the brand and holds some favorable, strong, and unique brand associations in memory.” Relying on Keller’s (1993) definition, Dillon, et al. (2001, p.428), in their “General Discussion” section, suggest that consumers’ survey responses “capture the favorability of brand associations,” and that the approach that they (and I) take “provides a mechanism to assess the strength and uniqueness of brand associations.”

But contrary to Dillon, et al.’s (2001) prediction that the detailed attribute source represents stronger and more unique associations, I find that consumers’ use of the high-level brand source is more closely related to a measure of brand equity. The question remains whether the outcomes that are supposed to accrue to a brand with high equity (especially those of greater loyalty and less vulnerability) empirically can be linked with either the high-level or detailed attribute source. Thus, I have developed an experiment to test whether consumers’ current use of the high-level brand source or detailed attribute source is associated with less vulnerability to new (negative) information.
4.3 Pre-Test Procedures

4.3.1. Research Design

The final study was designed as a 2 (level of initial information: high-level brand or detailed attribute) x 2 (level of new information) mixed design to test the moderating effect of level of initial information on the impact of new information.

More specifically, subjects would receive an initial piece of information about a fictional brand of outdoor shoe. This information would either relate to the brand (i.e., high-level brand information: e.g., “The Land Rover of adventure shoes”) or the features or attributes of the brand (i.e., detailed attribute information: e.g., “Light-weight materials provide superior foot protection”). Subjects’ overall evaluations of the brand would be assessed. A filler task would clear short-term memory, and then a new piece of information would be given that would be either high-level brand or detailed attribute information. Subjects again would be asked for their overall evaluation of the brand. This design would result in four distinct cells related to level of information given: high-high, high-low, low-low, low-high.

A pretest was conducted to ensure that (1) the information intended to be high-level brand information and that intended to be detailed attribute information is perceived to be at these different levels (high vs. low) and (2) that the information is seen as equivalent in terms of valence and impact on overall evaluation. Table 4.1 and Table 4.2 list the candidate statements.
The final survey would contain one piece of initial high-level brand information (from Table 4.1 Column A) and one piece of initial detailed attribute information (from Table 4.1 Column B). It also would contain one piece of “negative” high-level brand information (from Table 4.2 Column C) and one piece of “negative” detailed attribute information (from Table 4.2 Column D).

<table>
<thead>
<tr>
<th>A. High-Level Brand Information</th>
<th>B. Detailed Attribute Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Serious adventurers consider Sherpas the “Best-Built Shoes on the Planet,” born of the latest design technology and blood-and-sweat, muscle-aching, adrenaline-rushing experience, meticulously crafted from the most advanced materials.</td>
<td>1. Serious adventurers recognize that Sherpas are expertly constructed of light-weight materials that provide superior foot protection against any obstacles, but are also comfortable enough for your longest adventures.</td>
</tr>
<tr>
<td>2. Serious adventurers consider Sherpas the “Range Rovers of Adventure Shoes,” because they are expertly constructed of advanced materials designed to go anywhere and take whatever punishment you can dish out.</td>
<td>2. Serious adventurers recognize that Sherpas are expertly constructed of breathable materials that cushion feet and ankles against the most jarring shocks and provide rock-solid stability over unstable terrain.</td>
</tr>
<tr>
<td>3. Serious adventurers call Sherpas their “Foul weather friends,” because they are expertly constructed of advanced materials designed to provide ultimate protection to help you survive any challenge, any terrain, time after time.</td>
<td>3. Serious adventurers recognize that Sherpas are expertly constructed of the softest materials, but provide superior long-lasting durability for your most grueling adventures and are water resistant through snow, streams, or mud.</td>
</tr>
</tbody>
</table>

Table 4.1: Candidate “Initial Information” statements.
The goal of the pre-test was to determine which two of the candidate pieces of information should be paired on the final survey, based on equivalent valence, level, and impact on overall evaluation. In the pre-test, subjects evaluated only one type of information (i.e., from only one column of Table 4.1 or Table 4.2). Analysis of pre-test results data described subsequently allowed me to pair statements based on statistically similar responses based on valence, level, and overall evaluation questions.

<table>
<thead>
<tr>
<th>C. High-Level Brand Information</th>
<th>D. Detailed Attribute Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. “I would call Sherpas the ‘Yugos of adventure shoes.’”</td>
<td>1. “My Sherpas were very light weight, but the fabrics ripped easily, making the shoes not waterproof after a few tough adventures.”</td>
</tr>
<tr>
<td>2. “I don’t think that Sherpas understand the adventure racing culture and what we need.”</td>
<td>2. “Sherpas are very comfortable at first, but the cushioning gets compressed quickly and they lose their shock absorption, making them uncomfortable for longer adventures.”</td>
</tr>
<tr>
<td>3. “Wearing Sherpas during an adventure race is like wearing dress shoes to play basketball.”</td>
<td>3. “Sherpa’s do provide outstanding foot protection, but the materials do not breathe and my feet felt like they were in a furnace after a couple of hours.”</td>
</tr>
<tr>
<td>4. “Sherpas are the brand for those who don’t have a lot of experience picking out an adventure racing shoe.”</td>
<td>4. “Sherpa’s hand-sewn seams tend to stretch with wear, becoming too loose to keep them waterproof.”</td>
</tr>
</tbody>
</table>

Table 4.2: Candidate “Negative Information” statements.
4.3.2 Sample

Students enrolled in two marketing courses in the Fisher College of Business were invited to participate in the study. All students in the classes in which the survey was conducted had the opportunity to complete a short survey, either in class or at home, or complete a 2-3 page essay on “Different drivers of advertising effectiveness” for the same amount of course credit, or choose to not participate. Sixty eight students completed the pre-test survey.

4.3.3 Measurement/Instrumentation

The critical measures in the initial information pre-test are the overall evaluations of the brand after reading the statement and the subjects’ perception of the degree to which the statement is high- or low-level. A high-level brand information statement will be paired with a detailed attribute information statement when the differences in the two measures (overall evaluation, and level) are not statistically significant. One additional matching criterion will be imposed in the negative information pretest: the information should also be seen to have equal valence (i.e., equally negative). Appendices A and B contain examples of the four pre-test surveys that were used. Statement order was rotated through different versions of the survey to avoid order effects, and subjects evaluated only one set of statements, either brand-level initial information (column A), attribute-level initial information (column B), brand-level “negative” information (column C), or
attribute-level “negative” information (column D), to avoid contamination from other sources of information. The stimuli were designed to be relevant to a student population, and the survey took about five minutes to complete.

4.3.4 Data Analysis

The pre-test data were analyzed separately by type of information (initial information or “negative” information) according to the following procedures. First a Cronbach’s Alpha was computed for the overall evaluation scale (5 items, average alpha = .8325). Alpha values greater than .80 provide evidence of a unidimensional scale, making it appropriate to average the scores from each question in the scale to form a composite score. Accordingly, an average overall evaluation score was calculated for each statement across the four groups of statements. Average scores are reported in Table 4.3. Analysis of the initial information statements indicates that statement 2 from Table 4.1 Column A “Range Rovers” and statements 1 “Light Weight” and 3 “Softest” from Table 4.1 Column B, produced equivalent overall evaluations (Range Rovers 5.46, Light Weight 5.45, p=.986; Softest 5.44, p=.955), indicating that it may be appropriate to pair the “Range Rovers” initial high-level brand information statement with either the “Light Weight” or “Softest” initial detailed brand information statement. In order to decide which (if either) should be paired with “Range Rovers” I evaluated the level scale and forced total responses.
The level scale (3 items) produced very small or negative alpha values, so only scores on the last item of the scale, “brand level …..attribute/feature/material level” were analyzed. Scores are reported in Table 4.3. Respondents evaluated both detailed attribute-level statements as more attribute/feature/material level than the “Range Rover” statement (Range Rover 3.72; Light Weight 4.94, p=.037; Softest 4.81, p=.076).

For the forced total question, the average number of points allocated to the high-level brand statement for each group was computed. “Range Rovers” scored on average 63.82 points across respondents, while “Light Weight” scored 40.94 (p=.117) and “Softest” scored 30.31 (p=.004).
<table>
<thead>
<tr>
<th>Initial Brand</th>
<th>Overall</th>
<th>Level</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALPHA</strong></td>
<td>0.841</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Best Built</td>
<td>5.57</td>
<td>3.78</td>
<td>50.28</td>
</tr>
<tr>
<td><strong>Range Rovers</strong></td>
<td>5.46</td>
<td>3.72</td>
<td>55.00</td>
</tr>
<tr>
<td>Foul Weather Friends</td>
<td>4.89</td>
<td>4.28</td>
<td>52.78</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initial Attribute</th>
<th>Overall</th>
<th>Level</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALPHA</strong></td>
<td>0.811</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light Weight</td>
<td>5.45</td>
<td>4.94</td>
<td>40.94</td>
</tr>
<tr>
<td>Breathable</td>
<td>5.53</td>
<td>5.06</td>
<td>30.94</td>
</tr>
<tr>
<td><strong>Softest</strong></td>
<td>5.44</td>
<td>4.81</td>
<td>30.31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Negative Brand</th>
<th>Overall</th>
<th>Level</th>
<th>Points</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALPHA</strong></td>
<td>0.946</td>
<td>0.6315</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yugo</td>
<td>3.84</td>
<td>3.35</td>
<td>67.06</td>
<td>3.50</td>
</tr>
<tr>
<td>Understand</td>
<td>2.40</td>
<td>2.94</td>
<td>68.24</td>
<td>5.40</td>
</tr>
<tr>
<td>Dress Shoes</td>
<td>2.26</td>
<td>4.24</td>
<td>61.18</td>
<td>5.50</td>
</tr>
<tr>
<td>Experience</td>
<td>3.29</td>
<td>3.65</td>
<td>63.82</td>
<td>5.10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Negative Attribute</th>
<th>Overall</th>
<th>Level</th>
<th>Points</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALPHA</strong></td>
<td>0.732</td>
<td></td>
<td>0.7665</td>
<td></td>
</tr>
<tr>
<td>Light Weight</td>
<td>2.85</td>
<td>4.82</td>
<td>38.53</td>
<td>5.88</td>
</tr>
<tr>
<td>Comfortable</td>
<td>3.27</td>
<td>3.24</td>
<td>37.94</td>
<td>5.49</td>
</tr>
<tr>
<td>Protection</td>
<td>3.39</td>
<td>5.06</td>
<td>40.00</td>
<td>5.34</td>
</tr>
<tr>
<td><strong>Hand Sewn</strong></td>
<td>3.25</td>
<td>4.94</td>
<td>35.00</td>
<td>5.10</td>
</tr>
</tbody>
</table>

* Alpha represents average value over 3 (initial) or 4 (negative) statements.

<table>
<thead>
<tr>
<th>TEST STATISTICS (p-values)</th>
<th>Overall</th>
<th>Level</th>
<th>Points</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range Rovers vs. Light Weight</td>
<td>0.986</td>
<td>0.037</td>
<td>0.117</td>
<td></td>
</tr>
<tr>
<td>Range Rovers vs. Softest</td>
<td>0.955</td>
<td>0.076</td>
<td>0.004</td>
<td></td>
</tr>
<tr>
<td>Experience vs. Hand Sewn</td>
<td>0.905</td>
<td>0.032</td>
<td>0.000</td>
<td>0.998</td>
</tr>
</tbody>
</table>

Table 4.3: Pre-test results across questions
Taking both “level” questions into consideration, analysis indicates that “Softest” is a better match for “Land Rovers.” While the p-value for the difference between it and “Range Rovers” is .076 on the level question (vs. .037 for “Light Weight”), the p-value for the difference between it and “Range Rovers” on the forced total question was .004 (vs. .117 for “Light Weight”).

Based on these results, for the final survey, half of the respondents would get an initial brand-level statement that refers to Sherpas as “The Range Rovers of adventure shoes,” while the other half would get an initial detailed attribute-level statement that refers to Sherpas as “Expertly constructed of the softest materials….”

Analysis of the negative information statements indicates that statement 4 from Table 4.1 Column C and statement 4 from Table 4.1 Column D produced equivalent overall evaluations (Experience 3.29, Hand Sewn 3.25, p=.905) indicating that it may be appropriate to pair the “Experience” negative high-level brand information statement with the “Hand Sewn” negative detailed brand information statement.

Analysis of responses to the level and forced total questions indicated that the “Experience” statement was evaluated as more high-level than the “Hand Sewn” statement (Level: Experience 3.65, Hand Sewn 4.94, p=.032; Points: Experience 63.82, Hand Sewn 35, p=.000).

Analysis to responses of the negativity scale (4 items, average alpha = .699) indicated that the “Experience” and “Hand Sewn” statements were seen as equivalently negative (5.10 for both, p=.998).
Based on these results, for the final survey, half of the respondents would get a negative brand-level statement that refers to Sherpas as “The brand for those who don’t have a lot of experience…,” while the other half would get a negative detailed attribute-level statement that indicates that “Sherpas hand-sewn seams tend to stretch with wear….”

The four cells of the study will feature the pairs of statements listed in Table 4.4. IB refers to “initial brand” information; IA refers to “initial attribute” information. NB refers to “negative brand” information; NA refers to “negative attribute” information.

<table>
<thead>
<tr>
<th>IB</th>
<th>Serious adventurers consider Sherpas the “Range Rovers of Adventure Shoes,” because they are expertly constructed of advanced materials designed to go anywhere and take whatever punishment you can dish out.</th>
<th>IA</th>
<th>Serious adventurers recognize that Sherpas are expertly constructed of the softest materials, but provide superior long-lasting durability for your most grueling adventures and are water resistant through snow, streams, or mud.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NB</td>
<td>“Sherpas are the brand for those who don’t have a lot of experience picking out an adventure racing shoe.”</td>
<td>NA</td>
<td>“Sherpa’s hand-sewn seams tend to stretch with wear, becoming too loose to keep them waterproof.”</td>
</tr>
</tbody>
</table>

Table 4.4: Statement pairings for final survey (i.e., four cells of the experiment).
4.4 Final Survey Procedures

4.4.1. Research Design

As stated in section 4.3.1 above, this study used a 2 (level of initial information: high-level brand or detailed attribute) x 2 (level of new information) mixed design to test the moderating effect of level of initial information on the impact of new information. Generally, the survey had three parts: (1) assessment of overall brand evaluation after initial information (high or low level), (2) filler task, (3) assessment of overall brand evaluation after new information (high or low level).

More specifically, subjects received an initial piece of information about a fictional brand of outdoor shoe. This information was either about the brand (i.e., high-level brand information: e.g., “The Land Rover of adventure shoes”) or about the features or attributes of the brand (i.e., detailed attribute information: e.g., “Light-weight materials provide superior foot protection”). Subjects’ overall evaluations of the brand were assessed using a five item scale (e.g., “a very bad brand……a very good brand”) See sample survey screens in Appendix C. A filler task cleared short-term memory, and then a new piece of information was given that was either high-level brand or detailed attribute information. Subjects again were asked for their overall evaluation of the brand. This design resulted in four distinct cells related to level of information given: high-high, high-low, low-low, low-high. Subjects were randomly assigned to one of the cells.
4.4.2 Sample

Undergraduate students enrolled in two introductory marketing courses in the Fisher College of Business were invited to participate in the final survey. All students in the classes in which the survey was offered had the opportunity to complete a short online survey, or complete a 2-3 page essay on “Different drivers of advertising effectiveness” for the same amount of course credit, or choose to not participate. Three hundred eighty-four students completed the survey.

4.4.3 Measurement/Instrumentation

The critical measure in the final survey was the overall brand evaluation after reading both statements. As in the pre-test, a five-item scale was used to measure overall brand evaluation (average alpha = .8465). In addition, subjects were asked for their level of interest in the subject of the survey, outdoor adventure shoes. Descriptive statistics are included in Table 4.5.
<table>
<thead>
<tr>
<th></th>
<th>initial info</th>
<th>new info</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>attribute</td>
<td>attribute</td>
<td>5.40</td>
<td>1.07</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>brand</td>
<td>brand</td>
<td>5.43</td>
<td>1.06</td>
<td>99</td>
</tr>
<tr>
<td>initial</td>
<td></td>
<td>Total</td>
<td>5.42</td>
<td>1.06</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>attribute</td>
<td>attribute</td>
<td>5.37</td>
<td>1.11</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td>brand</td>
<td>brand</td>
<td>5.53</td>
<td>0.98</td>
<td>91</td>
</tr>
<tr>
<td>brand</td>
<td></td>
<td>Total</td>
<td>5.45</td>
<td>1.05</td>
<td>185</td>
</tr>
<tr>
<td></td>
<td>attribute</td>
<td>attribute</td>
<td>5.39</td>
<td>1.09</td>
<td>194</td>
</tr>
<tr>
<td></td>
<td>brand</td>
<td>brand</td>
<td>5.48</td>
<td>1.02</td>
<td>190</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>Total</td>
<td>5.43</td>
<td>1.06</td>
<td>384</td>
</tr>
<tr>
<td></td>
<td>attribute</td>
<td>attribute</td>
<td>3.81</td>
<td>1.04</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>brand</td>
<td>brand</td>
<td>3.91</td>
<td>1.16</td>
<td>99</td>
</tr>
<tr>
<td>new</td>
<td></td>
<td>Total</td>
<td>3.86</td>
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<td>199</td>
</tr>
<tr>
<td></td>
<td>attribute</td>
<td>attribute</td>
<td>3.85</td>
<td>1.18</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td>brand</td>
<td>brand</td>
<td>3.59</td>
<td>1.02</td>
<td>91</td>
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<td>3.72</td>
<td>1.11</td>
<td>185</td>
</tr>
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<td>3.83</td>
<td>1.11</td>
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<td>1.10</td>
<td>190</td>
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<td></td>
<td>Total</td>
<td>3.79</td>
<td>1.11</td>
<td>384</td>
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</tbody>
</table>

Table 4.5: Descriptive statistics from final survey.

4.4.4 Data Analysis

The final survey data from all 384 respondents were analyzed as within-subjects repeated measures. Interest in outdoor adventure shoes was included as a covariate (1-7 scale with 7 indicating lowest level of interest, $m=4.677$).
Planned contrasts indicate no difference in the initial brand evaluation based on the type of information given first (Table 4.6). This result acts as a manipulation check, and supports the pre-test results. Subjects’ initial brand evaluations are equivalent regardless of the type of information the subjects received first (high-level brand information or detailed attribute information).

<table>
<thead>
<tr>
<th>Contrast Number</th>
<th>Condition</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Attribute-Attribute</td>
<td>Attribute-Brand</td>
</tr>
<tr>
<td>1</td>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>-1</td>
<td>0</td>
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<tr>
<td>3</td>
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<tr>
<td>6</td>
<td>0</td>
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</tr>
</tbody>
</table>

Table 4.6: Planned contrasts of initial brand evaluation.

No main effects of initial information or new information were found (p= .232 and .50, respectively), that is, results did not vary systematically by the type of information subjects received first or second. Also, no main effects were found to result from whether subjects received consistent information (e.g., brand-brand or attribute-attribute) or different information (e.g., brand-attribute or attribute-brand) (p=.119).
Results indicate a marginally significant 3-way interaction between scale, initial information and new information (p = .07). Planned contrasts of final brand evaluation indicate that contrast number five (attribute-brand vs. brand-brand) is significant (p=.048) (Table 4.7).

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<thead>
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<th>Condition</th>
<th>Sig. (2-tailed)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Attribute-Attribute</td>
<td>Attribute-Brand</td>
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<td>1</td>
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<tr>
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<tr>
<td>6</td>
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</tbody>
</table>

Table 4.7: Planned contrasts of final brand evaluations.

Pictorially, Figure 4.1 demonstrates that regardless of the type of information subjects received first, final brand evaluations were equivalent when subjects received attribute information second.
Overall Brand Ratings for Respondents that Received Attribute Information Second

3.81 5.40 3.85 5.37 3.00 3.50 4.00 4.50 5.00 5.50 6.00

Initial Rating New Rating

Pictorially, Figure 4.2 demonstrates that regardless of which type of information subjects received first, final brand evaluations differed when subjects received brand information second (p=.048). Specifically, final brand evaluations were lower when subjects received two pieces of brand information \( (m = 3.575) \) as opposed to when they received attribute information first, followed by brand information \( (m = 3.919) \). No other analyses (e.g., median split on level of interest) produced significant results.
Figure 4.2: Marginal means of initial and new brand evaluation for subjects who received brand information second

4.5 Discussion

Prior results discussed in Chapter 3 link subjects’ use of a high-level brand source to provide brand-benefit evaluations with a measure of brand equity. The purpose of this study was to determine whether subjects who possessed only high-level brand information would exhibit behaviors that have been linked with brand equity,
specifically, greater loyalty and less vulnerability, while those who possessed only
detailed attribute-level information would not. The results find an effect of brand-level
information, but not the prophylactic effect expected.

What this study finds is that when subjects receive negative brand-level
information second, it has a greater negative impact on overall brand evaluation if the
initial information they possess about the brand is also at a brand level. This result
suggests that if consumers are faced with negative brand-level information, they are less
impacted by that information if they have some positive attribute information (such as
information about the brand’s ingredients or performance) with which to counter the
negative brand-level information. This is a reasonable finding. Since the second brand-
level information does not specifically contradict the initial attribute-level information,
consumers would be left to determine the extent to which they will let the new non-
performance related information impact their overall brand evaluations.

On the contrary, when consumers are faced with negative brand-level information
that directly contradicts existing brand-level information stored in memory, it is
reasonable that this new information would be assimilated with the old, and the overall
evaluation fall.

It is important to note that this study did not directly test behavioral loyalty to a
particular brand, nor did it test the effects of competitive information. This study only
investigated the impact of negative information from an “objective” industry source on
overall brand evaluations. As demonstrated in Chapter 2, it is possible that consumers’
actions would not move in lock-step with their brand evaluations. Such factors as the competitive environment and consumer inertia would also have an impact on consumers’ behavior.

It is also important to note that the study tested only the effects of negative information. It could be that initial brand information bolsters the impact of new positive brand information, suggesting a consistency effect working in the opposite direction of the one found here.

Finally, I would note that, even though it was the only information on which they could base their evaluation, giving subjects a single piece of information – even when pre-tests found significant differences in level (i.e., brand-level vs. attribute level) – may not be equivalent to the brand or attribute sources described in Chapter 3. For well-known brands, both the attribute and brand sources would be much more richly developed and contain multiple pieces of information. This suggests that a single piece of negative information may not have as large an impact on overall brand evaluations. It also suggests that the brand source, which is composed of integrated information, may have a different impact on the evaluation of new information than would detailed attribute information, which is stored in a more granular fashion.

To make the conclusions more robust and fully integrated with the empirical work from Chapter 3, it would be important to investigate the impact of both positive and richer sources of information.
APPENDIX A

QUESTIONNAIRE: PRE-TEST (INITIAL ATTRIBUTE INFORMATION)
**Brand Information Survey**

Version: IA1

The purpose of this study is to understand how consumers react to different types of information about a brand.

The survey that we are handing out today asks for your reactions to several statements regarding a brand of shoes.

The survey should only take about 5 minutes, but you have the option of writing a 2-3 page paper on “Different drivers of advertising effectiveness,” for the same amount of extra credit.

If you choose to participate in this survey then you can take the form and complete it in class, or fill it out at your own leisure and submit it in class next week.

At this time or after you get the survey please feel free to ask any questions pertaining to the research or the survey. If you think of any questions later you can contact either of the researchers, Bob Leone: Leone_7@cob.osu.edu, or Randy Raggio: Raggio@cob.osu.edu.

For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 1-800-678-6251.

If you do not intend to participate please do not take the questionnaire when it is passed around.

Thank you.

To receive extra credit, please provide your name:

____________________________________

and email address: ________________________________
An Australian shoe company has enlisted the help of the marketing department at Ohio State to help it refine its message for its mass market U.S. launch in early 2006. The company produces the Sherpa brand of “adventure footwear,” a combination of hiking/running/mountain biking/climbing shoes. These shoes currently are popular with athletes that compete in adventure races, which are described by the United States Adventure Racing Association below:

Adventure Racing is one of the few sports where just completing a race is often considered a victory. Adventure Racing offers an easy crossover for cyclist, runners and water sport enthusiasts just to mention a few. Adventure races can vary anywhere from 2-5 person teams, with some events now offering solo categories. The disciplines can also vary from race to race. Adventure racing can include shredding through tight single track on a mountain bike or orienteering and hiking through a dense forest. Adventure racers may find themselves ripping down rapids in a canoe and then rappelling off a 100 foot rock face. The races can last a few hours or several days and can cover 10 - 100 miles or more!

Please evaluate the following statements to help the company determine which would be best for its U.S. launch.
Serious adventurers recognize that Sherpas are expertly constructed of light-weight materials that provide superior foot protection against any obstacles, but are also comfortable enough for your longest adventures.

1. After reading this statement, I would say that Sherpas are:  
   (please circle your answer)

   - a very bad brand 1 2 3 4 5 6 7  
   - very undesirable 1 2 3 4 5 6 7  
   - very low quality 1 2 3 4 5 6 7  
   - low performance 1 2 3 4 5 6 7  
   - one of the best 1 2 3 4 5 6 7  
   - brands on the market 1 2 3 4 5 6 7  

2. This statement provides information that I consider:  
   (please circle your answer)

   - very general 1 2 3 4 5 6 7  
   - very high level 1 2 3 4 5 6 7  
   - brand level 1 2 3 4 5 6 7  

3. Please allocate 100 points to the following statements:

   - The statement made me think mostly about the Sherpa brand. __________pts.
   - The statement made me think mostly about the features, materials, or construction of Sherpa shoes. __________pts.

   Total = 100 pts.

4. After reading this statement, I would say that Sherpas are:  
   (please circle your answer)

   - a very bad brand 1 2 3 4 5 6 7  
   - very undesirable 1 2 3 4 5 6 7  
   - very low quality 1 2 3 4 5 6 7  
   - low performance 1 2 3 4 5 6 7  
   - one of the best 1 2 3 4 5 6 7  
   - brands on the market 1 2 3 4 5 6 7  

Serious adventurers recognize that Sherpas are expertly constructed of breathable materials that cushion feet and ankles against the most jarring shocks and provide rock-solid stability over unstable terrain.

4. After reading this statement, I would say that Sherpas are:  
   (please circle your answer)

   - a very bad brand 1 2 3 4 5 6 7  
   - very undesirable 1 2 3 4 5 6 7  
   - very low quality 1 2 3 4 5 6 7  
   - low performance 1 2 3 4 5 6 7  
   - one of the best 1 2 3 4 5 6 7  
   - brands on the market 1 2 3 4 5 6 7

146
5. This statement provides information that I consider:  (please circle your answer)

very general  1  2  3  4  5  6  7  very specific
very high level  1  2  3  4  5  6  7  very low level
brand level  1  2  3  4  5  6  7  attribute/feature/material level

6. Please allocate 100 points to the following statements:
The statement made me think mostly about the Sherpa brand.  __________pts.
The statement made me think mostly about the features, materials, or construction of Sherpa shoes.  __________pts.
Total = 100 pts.

Serious adventurers recognize that Sherpas are expertly constructed of the softest materials, but provide superior long-lasting durability for your most grueling adventures and are water resistant through snow, streams, or mud.

7. After reading this statement, I would say that Sherpas are:  (please circle your answer)

a very bad brand  1  2  3  4  5  6  7  a very good brand
very undesirable  1  2  3  4  5  6  7  very desirable
very low quality  1  2  3  4  5  6  7  very high quality
low performance  1  2  3  4  5  6  7  high performance
   one of the best  1  2  3  4  5  6  7  one of the worst
brands on the market  1  2  3  4  5  6  7  brands on the market

8. This statement provides information that I consider:  (please circle your answer)

very general  1  2  3  4  5  6  7  very specific
very high level  1  2  3  4  5  6  7  very low level
brand level  1  2  3  4  5  6  7  attribute/feature/material level

9. Please allocate 100 points to the following statements:
The statement made me think mostly about the Sherpa brand.  __________pts.
The statement made me think mostly about the features, materials, or construction of Sherpa shoes.  __________pts.
Total = 100 pts.
10. I consider myself: (please circle your answer)
very interested in the topic
not at all interested in
the topic
of adventure races 1 2 3 4 5 6 7 of adventure races

11. English is my first language: (please circle your answer) Yes No
APPENDIX B

QUESTIONNAIRE: PRE-TEST (NEW ATTRIBUTE INFORMATION)
The purpose of this study is to understand how consumers react to different types of information about a brand.

The survey that we are handing out today asks for your reactions to several statements regarding a brand of shoes.

The survey should only take about 5 minutes, but you have the option of writing a 2-3 page paper on “Different drivers of advertising effectiveness," for the same amount of extra credit.

If you choose to participate in this survey then you can take the form and complete it in class, or fill it out at your own leisure and submit it in class next week.

At this time or after you get the survey please feel free to ask any questions pertaining to the research or the survey. If you think of any questions later you can contact either of the researchers, Bob Leone: Leone_7@cob.osu.edu, or Randy Raggio: Raggio@cob.osu.edu.

For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 1-800-678-6251.

If you do not intend to participate please do not take the questionnaire when it is passed around.

Thank you.

To receive extra credit, please provide your name:

____________________________________

and email address: ________________________________
An Australian shoe company produces the *Sherpa* brand of “adventure footwear,” a combination of hiking/running/mountain biking/climbing shoes. These shoes currently are popular with athletes that compete in adventure races, which are described by the United States Adventure Racing Association below:

Adventure Racing is one of the few sports where just completing a race is often considered a victory. Adventure Racing offers an easy crossover for cyclist, runners and water sport enthusiasts just to mention a few. Adventure races can vary anywhere from 2-5 person teams, with some events now offering solo categories. The disciplines can also vary from race to race. Adventure racing can include shredding through tight single track on a mountain bike or orienteering and hiking through a dense forest. Adventure racers may find themselves ripping down rapids in a canoe and then rappelling off a 100 foot rock face. The races can last a few hours or several days and can cover 10 - 100 miles or more!
The following statements about Sherpas have been taken from in Multisport magazine, one of the leading magazines covering adventure racing.

“My Sherpas were very light weight, but the fabrics ripped easily, making the shoes not waterproof after a few tough adventures.”

1. The above statement is: *(please circle your answer)*

- very trivial
- not at all damaging
- not at all informative
- very mild

very important
very damaging
very informative
very harsh

2. After reading this statement, I would say that Sherpas are: *(please circle your answer)*

- a very bad brand
- very undesirable
- very low quality
- low performance
- one of the best
- brands on the market

a very good brand
very desirable
very high quality
high performance
one of the worst
brands on the market

3. This statement provides information that I consider: *(please circle your answer)*

- very general
- very high level
- brand level

very specific
very low level
attribute/feature/material level

4. Please allocate 100 points to the following statements:

The statement made me think mostly about the Sherpa brand. __________ pts.

The statement made me think mostly about the features, materials, or construction of Sherpa shoes. __________ pts.

Total = 100 pts.
“Sherpas are very comfortable at first, but the cushioning gets compressed quickly and they lose their shock absorption, making them uncomfortable for longer adventures.”

5. The above statement is: *(please circle your answer)*

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6. After reading this statement, I would say that Sherpas are: *(please circle your answer)*

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7. This statement provides information that I consider: *(please circle your answer)*

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8. Please allocate 100 points to the following statements:

   The statement made me think mostly about the Sherpa brand. __________pts.

   The statement made me think mostly about the features, materials, or construction of Sherpa shoes. __________pts.

   Total = 100 pts.
“*Sherpas* do provide outstanding foot protection, but the materials do not breathe and my feet felt like they were in a furnace after a couple of hours.”

9. The above statement is: *(please circle your answer)*

<table>
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<tr>
<th>Option</th>
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<tr>
<td>very mild</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

10. After reading this statement, I would say that *Sherpas* are: *(please circle your answer)*

<table>
<thead>
<tr>
<th>Option</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>a very bad brand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>very undesirable</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>very low quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>low performance</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>one of the best brands on the market</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. This statement provides information that I consider: *(please circle your answer)*

<table>
<thead>
<tr>
<th>Option</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>very general</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>very high level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>brand level</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. Please allocate 100 points to the following statements:

The statement made me think mostly about the *Sherpa* brand.  __________pts.

The statement made me think mostly about the features, materials, or construction of *Sherpa* shoes.  __________pts.

Total = 100 pts.
“Sherpa’s hand-sewn seams tend to stretch with wear, becoming too loose to keep them waterproof.”

13. The above statement is: (please circle your answer)

- very trivial
- not at all damaging
- not at all informative
- very mild

very important
very damaging
very informative
very harsh

14. After reading this statement, I would say that Sherpas are: (please circle your answer)

- a very bad brand
- very undesirable
- very low quality
- low performance
- brands on the best
- brands on the market

very good brand
very desirable
very high quality
high performance
one of the best
one of the worst

15. This statement provides information that I consider: (please circle your answer)

- very general
- very high level
- brand level

very specific
very low level
attribute/feature/material level

16. Please allocate 100 points to the following statements:

The statement made me think mostly about the Sherpa brand. __________ pts.

The statement made me think mostly about the features, materials, or construction of Sherpa shoes. __________ pts.

Total = 100 pts.

17. I consider myself: (please circle your answer)

very interested in the topic
not at all interested in the topic

very interested in the topic
not at all interested in the topic

of adventure races
of adventure races

18. English is my first language: (please circle your answer) Yes No
APPENDIX C

QUESTIONNAIRE: FINAL SURVEY
Brand Information Survey

The purpose of this study is to understand how consumers react to different types of information about a brand.

The survey that follows asks for your reactions to several statements regarding a brand of shoes.

The survey should take only about 5 minutes, but you have the option of writing a 2-3 page paper on "Different drivers of advertising effectiveness," for the same amount of extra credit if you choose to not participate. If you prefer to complete the essay, then please see your instructor for additional instructions.

Please feel free to ask any questions pertaining to the research or the survey. If you think of any questions later you can contact either of the researchers, Bob Leone: Leone.7@coh-cmu.edu, or Emily Parziale: Parziale.9@coh-cmu.edu.

For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact Mr. Sandra Meadows in the Office of Responsible Research Practices at 1-800-878-6251.

Thank you.

Before beginning, please enter your name: 

Please hit the "Start Survey" button below to begin the survey.

Start Survey
The following is an example of the type of questions that will be asked. Click on the button that indicates the degree to which you agree with the statement. Answer **once** for each city.

<table>
<thead>
<tr>
<th>This is a very FRIENDLY city.</th>
<th>I disagree strongly</th>
<th>Neutral</th>
<th>I agree strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austin, TX</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Oklahoma, OK</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>New York, NY</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Los Angeles, CA</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The survey contains questions like the one above. Once you have answered each question, please hit the "Continue" button at the bottom of the screen to continue to receive additional information and questions.
An Australian shoe company has enlisted the help of the marketing department to help it refine its message for its mass market U.S. launch in Summer 2006. The company produces the Singpa brand of “adventure footwear,” a combination of hiking/walking/mountain biking/climbing shoes. These shoes currently are popular with athletes that compete in adventure races, which are described by the United States Adventure Racing Association below:

Adventure Racing is one of the few sports where just completing a race is often considered a victory. Adventure Racing offers an easy crossover for cyclist, runners and water sport enthusiasts just to mention a few. Adventure races can vary anywhere from 2-5 person teams, with some events now offering solo categories. The disciplines can also vary from race to race. Adventure racing can include: shredding through tight single track on a mountain bike or orienteering and hiking through a dense forest. Adventure racers may find themselves ripping down rapids in a canoe and then rappelling off a 100 foot rock face. The races can last a few hours or several days and can cover 10 - 100 miles or more!
Please evaluate the following statement that the company is considering for its U.S. launch:

Serious adventurers consider Sherpas the “Range Rovers of Adventure Shoes,” because they are expertly constructed of advanced materials designed to go anywhere and take whatever punishment you can dish out.

1. After reading this statement, I would say that Sherpas are:
   a. a very bad brand 1 2 3 4 5 6 7
   b. very undesirable 1 2 3 4 5 6 7
   c. very low quality 1 2 3 4 5 6 7
   d. low performance 1 2 3 4 5 6 7
   e. one of the best brands on the market 1 2 3 4 5 6 7

Continue
Before you continue the study, please answer the following simple math questions.

1. The square root of 13 is called a( ):  
   - imaginary  
   - irrational  
   - integer  
   - prime

2. The first prime number is:  
   - zero  
   - one  
   - two  
   - three

3. The Pythagorean Theorem applies to:  
   - the circumference of a circle  
   - the opposite angles of a parallelogram  
   - the area of a right triangle  
   - the volume of a cylinder

4. The slope of the line $5x + 2y = 10$ is:  
   - $5$  
   - $-5$  
   - $\frac{-5}{2}$  
   - $2$
The following statement about Sherpas was recently written in *ArdhiSport* magazine, one of the leading magazines covering adventure racing.

*“Sherpas are the brand for those who don’t have a lot of experience picking out an adventure racing shoe.”*

<table>
<thead>
<tr>
<th>2. The above statement is:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a.</strong> very trivial</td>
</tr>
<tr>
<td><strong>b.</strong> not at all damaging</td>
</tr>
<tr>
<td><strong>c.</strong> not at all informative</td>
</tr>
<tr>
<td><strong>d.</strong> very odd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. After reading this statement, I would say that Sherpas are:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a.</strong> a very bad brand</td>
</tr>
<tr>
<td><strong>b.</strong> very undesirable</td>
</tr>
<tr>
<td><strong>c.</strong> very low quality</td>
</tr>
<tr>
<td><strong>d.</strong> low performance</td>
</tr>
<tr>
<td><strong>e.</strong> one of the best brands on the market</td>
</tr>
</tbody>
</table>
1. I consider myself very interested in the topic of adventure races:
   - 1 2 3 4 5 6 7 not at all interested in the topic of adventure races

2. Is English your first language?
   - Yes  No

Thank you for participating in this survey:
BIBLIOGRAPHY


