

An Examination of Selected Marketing Mix Elements and Brand Equity

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This study explores the relationships between selected marketing mix elements and the creation of brand equity. The authors propose a conceptual framework in which marketing elements are related to the dimensions of brand equity, that is, perceived quality, brand loyalty, and brand associations combined with brand awareness. These dimensions are then related to brand equity. The empirical tests using a structural equation model support the research hypotheses. The results show that frequent price promotions, such as price deals, are related to low brand equity, whereas high advertising spending, high price, good store image, and high distribution intensity are related to high brand equity.

Brand equity is the incremental utility or value added to a product by its brand name, such as Coke, Kodak, Levi's, and Nike (Farquhar, Han, and Ijiri 1991; Kamakura and Russell 1993; Park and Srinivasan 1994; Rangaswamy, Burke, and Oliva 1993). Accordingly, research has suggested that brand equity can be estimated by subtracting the utility of physical attributes of the product from the total utility of a brand. As a substantial asset to the

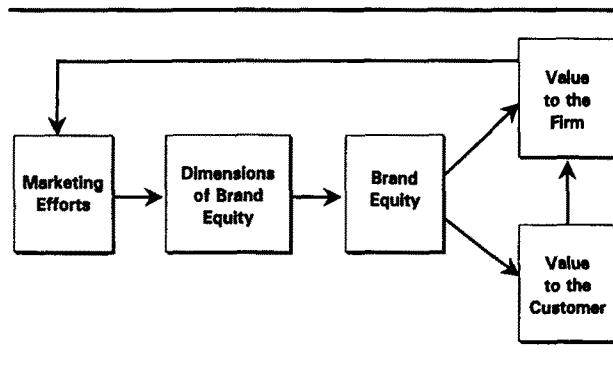
company, brand equity increases cash flow to the business (Simon and Sullivan 1993). From a behavioral viewpoint, brand equity is critically important to make points of differentiation that lead to competitive advantages based on nonprice competition (Aaker 1991).

Despite tremendous interest in brand equity, little conceptual development or empirical research has addressed which marketing activities build brand equity (Barwise 1993). The focus has been on the exploration of brand equity, not its sources and development. Shocker, Srivastava, and Ruekert (1994) indicated that they

believe more attention is needed in the development of more of a "systems view" of brands and products to include how intangibles created by the pricing, promotional, service, and distribution decisions of the brand manager combine with the product itself to create brand equity and affect buyer decision making. (P. 157)

In response to such a call, this study investigates the relationships between selected marketing mix elements and the creation of brand equity. We explore how these marketing actions increase or decrease brand equity. The findings provide insights into how marketing activities may be controlled to generate and manage brand equity. As the first study of this kind, this article provides a good starting point for further research on the linkage between marketing activities and brand equity.

FIGURE 1
A Conceptual Framework of Brand Equity



We test hypotheses in a field survey of existing brands in three product categories. In the next section, we present a conceptual framework of brand equity. We then review literature relevant to the relationships among the constructs and propose the research hypotheses. After describing the research method and reporting the results, we discuss implications of the findings and directions for future research.

CONCEPTUAL FRAMEWORK

Figure 1 exhibits our conceptual framework of brand equity, which is an extension of Aaker's (1991) model. Aaker proposes that (1) brand equity creates value for both the customer and the firm, (2) value for the customer enhances value for the firm, and (3) brand equity consists of multiple dimensions. We extend Aaker's model in two ways. First, we place a separate construct, brand equity, between the dimensions of brand equity and the value for the customer and the firm. The brand equity construct shows how individual dimensions are related to brand equity. Because brand equity is the value of a brand name, a construct that can be high or low, setting a separate brand equity construct will help us understand how the dimensions contribute to brand equity. Second, we add antecedents of brand equity, that is, marketing activities, assuming that they have significant effects on the dimensions of brand equity. Investigating the antecedents-dimensions-brand equity linkage is the focus of this research.

Effects of Brand Equity

In his conceptualization, Aaker (1991) proposes that brand equity creates value for the firm as well as for the customer. This proposition has been well supported. For example, brand equity affects merger and acquisition decision making (Mahajan, Rao, and Srivastava 1994) and stock

market responses (Lane and Jacobson 1995; Simon and Sullivan 1993) and determines the extendability of a brand name (Rangaswamy et al. 1993). It also increases the probability of brand choice, willingness to pay premium prices, marketing communication effectiveness, and brand licensing opportunities, and decreases vulnerability to competitive marketing actions and elastic responses to price increases (Barwise 1993; Farquhar et al. 1991; Keller 1993; Simon and Sullivan 1993; Smith and Park 1992). In summary, from a managerial perspective, brand equity provides sustainable competitive advantages to the firm (Bharadwaj, Varadarajan, and Fahy 1993).

Brand Equity and Its Dimensionality

We define brand equity as the difference in consumer choice between the focal branded product and an unbranded product given the same level of product features. This definition deals with the comparison of two products that are identical in all respects except brand name (e.g., Samsung product versus no-name product). All consumers have an impression of what Samsung conveys about a product, but they do not have a similar impression about what no-name conveys. Samsung's brand equity is the extra value embedded in its name, as perceived by the consumer, compared with an otherwise equal product without the name. The difference in consumer choice between these two products can be assessed by measuring the intention to buy or a preference for the focal brand in comparison with the no-name counterpart.

According to Aaker (1991, 1996), brand equity is a multidimensional concept. It consists of brand loyalty, brand awareness, perceived quality, brand associations, and other proprietary brand assets. Other researchers identify similar dimensions. Shocker and Weitz (1988) propose brand loyalty and brand associations, and Keller (1993) suggests brand knowledge, comprising brand awareness and brand image. Considering the various suggestions, we recognize perceived quality, brand loyalty, and brand awareness with strong brand associations as common dimensions of brand equity. In summary, high brand equity implies that customers have a lot of positive and strong associations related to the brand, perceive the brand is of high quality, and are loyal to the brand. In our extended model, the dimensions of brand equity increase brand equity because each of them is positively related to brand equity.

Marketing Efforts as Antecedents of Brand Equity

We suggest that brand equity can be created, maintained, and expanded by strengthening the dimensions of

brand equity. There are several antecedents of brand equity dimensions. For example, any marketing action has the potential to affect brand equity because it represents the effect of accumulated marketing investments into the brand. Brand-name recognition with strong associations, perceived quality of product, and brand loyalty can be developed through careful long-term investment. Thus, brand equity should be managed over time by maintaining the brand consistency, protecting the sources of brand equity, making appropriate decisions between fortifying and leveraging the brand, and fine-tuning the supporting marketing program (Keller 1998). When making a decision about marketing actions, managers need to consider their potential impact on brand equity. Brand-name investments should be directed to enhance the reputation and image of the brand name, brand loyalty, and perceived quality.

Researchers also suggest that marketing decisions and market conditions affect brand equity. For example, Simon and Sullivan (1993) list advertising expenditures, sales force and marketing research expenditures, age of the brand, advertising share, order of entry, and product portfolio as sources of brand equity. Other marketing activities such as the use of public relations (Aaker 1991); warranties (Boulding and Kirmani 1993); slogans or jingles, symbols, and packages (Aaker 1991); company image, country of origin, and promotional events (Keller 1993); and brand-naming strategy (Keller, Heckler, and Houston 1998) have also been proposed. For this study, we focus on a few key elements of the marketing mix. In particular, we select price, store image, distribution intensity, advertising expenditures, and price promotions or deals from the traditional "4P" marketing activities (price, place or distribution, promotion, and product) as a representative set of marketing programs. Although these variables do not cover the full domain of marketing, they represent typical marketing actions. Knowing how certain marketing activities contribute to or hurt brand equity will enable marketing managers to develop effective marketing plans. Managers need to promote brand-building activities and decrease or avoid brand-hurting activities.

RESEARCH HYPOTHESES

The main purpose of our study is to investigate the relationships between marketing mix elements and brand equity. On the basis of the literature, we hypothesize directional relationships among marketing efforts, the dimensions of brand equity, and brand equity. The relational paths among the constructs are summarized in Figure 2. Values to the firm and to the customer are included in the conceptual framework only to suggest a worthwhile road for further study of the structure of brand equity.

Brand Equity and Its Dimensions

By strengthening the dimensions of brand equity, we can generate brand equity. Understanding the brand equity phenomenon properly requires tapping the full scope of brand equity, including awareness, perceived quality, loyalty, and associations (Aaker 1991:317).

Zeithaml (1988) defines perceived quality as "the consumer's [subjective] judgment about a product's overall excellence or superiority" (p. 3). Personal product experiences, unique needs, and consumption situations may influence the consumer's subjective judgement of quality. High perceived quality means that, through the long-term experience related to the brand, consumers recognize the differentiation and superiority of the brand. Zeithaml identifies perceived quality as a component of brand value; therefore, high perceived quality would drive a consumer to choose the brand rather than other competing brands. Therefore, to the degree that brand quality is perceived by consumers, brand equity will increase.

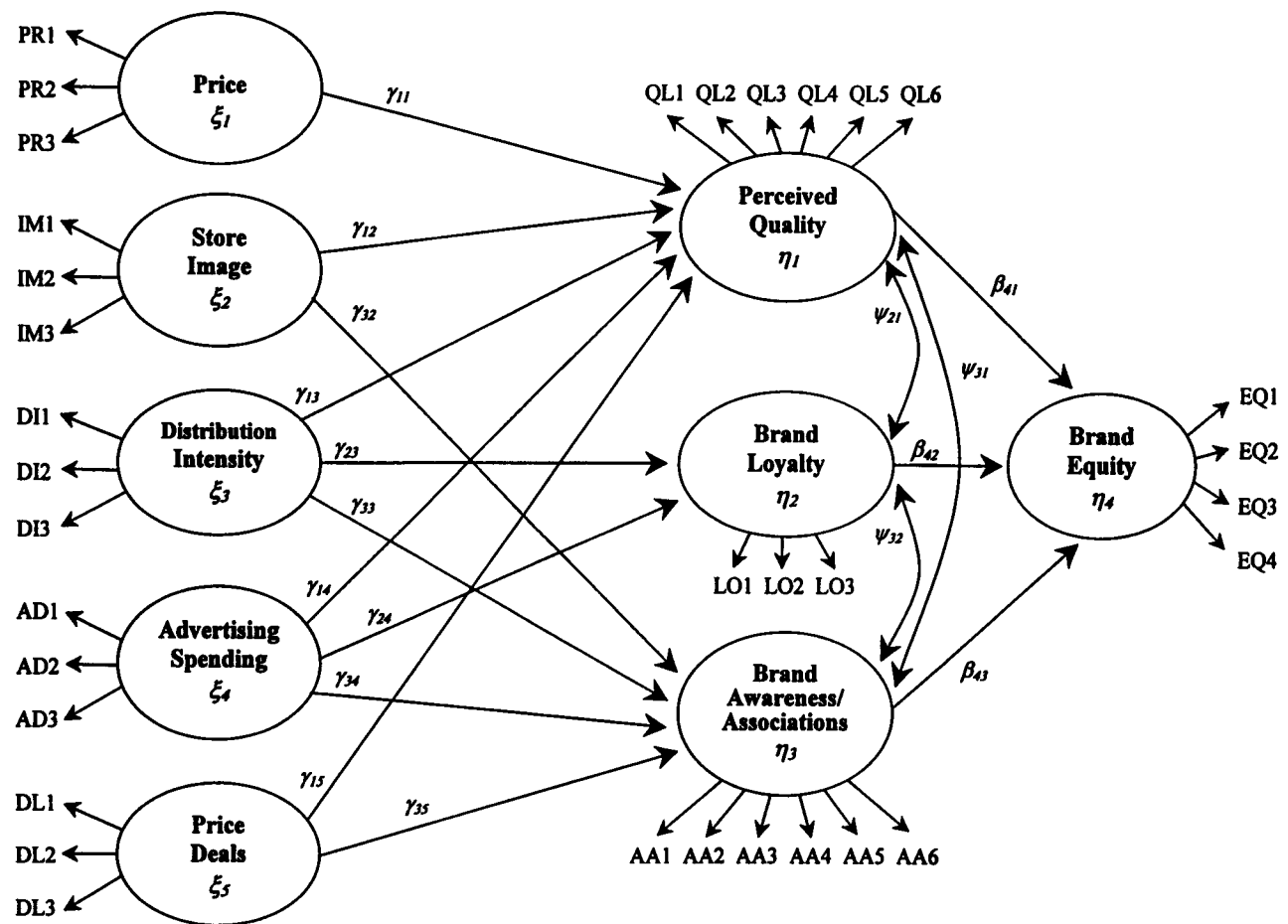
Oliver (1997) defines brand loyalty as "a deeply held commitment to rebuy or repatronize a preferred product or service consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behavior" (p. 392). Loyal consumers show more favorable responses to a brand than nonloyal or switching consumers do (Grover and Srinivasan 1992). Brand loyalty makes consumers purchase a brand routinely and resist switching to another brand. Hence, to the extent that consumers are loyal to the brand, brand equity will increase.

Brand awareness with strong associations forms a specific brand image. Aaker (1991) defines brand associations as "anything linked in memory to a brand" and brand image as "a set of [brand] associations, usually in some meaningful way" (p. 109). Brand associations are complicated and connected to one another, and consist of multiple ideas, episodes, instances, and facts that establish a solid network of brand knowledge. The associations are stronger when they are based on many experiences or exposures to communications, rather than a few (Aaker 1991; Alba and Hutchinson 1987). Brand associations, which result in high brand awareness, are positively related to brand equity because they can be a signal of quality and commitment and they help a buyer consider the brand at the point of purchase, which leads to a favorable behavior for the brand.

Hypothesis 1a: The level of brand equity is related positively to the extent to which brand quality is evident in the product.

Hypothesis 1b: The level of brand equity is related positively to the extent to which brand loyalty is evident in the product.

FIGURE 2
Structural Model: Marketing Mix Elements and Brand Equity



Hypothesis 1c: The level of brand equity is related positively to the extent to which brand associations and awareness are evident in the product.

Marketing Mix Elements and Brand Equity

Any marketing effort will be positively related to brand equity when it leads to a more favorable behavioral response to the focal product than to the equivalent unbranded product. As proposed in the conceptual framework, managerial efforts manifested in controllable marketing actions are related to brand equity through the mediation of the dimensions of brand equity. Therefore, to create, to manage, and to exploit brand equity, the relationships of marketing efforts to the dimensions of brand equity must be determined.

We investigate consumers' perceptions of five selected strategic marketing elements: price, store image, distribution intensity, advertising spending, and frequency of price

promotions. The selected factors do not embrace all types of marketing efforts but are representative enough to demonstrate the relationships between marketing efforts and the formation of brand equity.

Price. Consumers use price as an important extrinsic cue and indicator of product quality or benefits. High-priced brands are often perceived to be of higher quality and less vulnerable to competitive price cuts than low-priced brands (Blattberg and Winniewski 1989; Dodds, Monroe, and Grewal 1991; Kamakura and Russell 1993; Milgrom and Roberts 1986; Olson 1977). Therefore, price is positively related to perceived quality. Rao and Monroe (1989) show that a positive relationship between price and perceived quality has been supported through previous research. By increasing perceived quality, price is related positively to brand equity.

Hypothesis 2a: The perceived quality of a brand is related positively to the extent to which the price of the brand is perceived to be high.

We do not find any significant relationship between price and the other brand equity dimensions, brand loyalty and brand associations. Although price implies high quality, it does not create loyalty to the brand per se. Neither loyal nor nonloyal consumers use price as an evaluative criterion of the product, and they are not influenced by price considerations (Helsen and Schmittlein 1994; Meer 1995). Brand-loyal consumers are willing to pay the full price for their favorite brand because they are less price sensitive than brand-nonloyal consumers are. Thus, changing the price level alone does not affect brand loyalty. We also find no directional relationship between price and brand associations, because both low and high prices can be equally strongly linked to the brand in memory for the benefits that each brings to consumers. A low-priced product would give transaction utility (i.e., paying less than the consumer's internal reference price), whereas a high-priced product would give high-quality image or acquisition utility, leading to reduced consumer risk (Thaler 1985). Either a low- or high-price strategy would help consumers be equally aware of the product.

Store image. The importance of channel design and management as a marketing tool of increasing brand equity is growing (see Srivastava and Shocker 1991). In a distribution channel, retailers encounter a firm's ultimate consumers. Selecting and managing retailers is therefore a firm's major marketing task in satisfying consumers' needs. In particular, distributing through good image stores signals that a brand is of good quality. Dodds et al. (1991) find significant positive effects of store image on perceived quality. The store name is a vital extrinsic cue to perceived quality. The quality of a given brand is perceived differently depending on which retailer offers it. Customer traffic will be greater in a store with a good image than in one with a bad image. Good-image stores attract more attention, contacts, and visits from potential customers. In addition, such stores provide greater consumer satisfaction and stimulate active and positive word-of-mouth communications among consumers (Rao and Monroe 1989; Zeithaml 1988). Therefore, distributing a brand through an outlet with a good image will create more positive brand associations than distributing through an outlet with a bad image.

Hypothesis 2b: Perceived quality of a brand is related positively to the extent to which the brand is distributed through stores with a good image.

Hypothesis 2c: Brand associations are related positively to the extent to which the brand is distributed through stores with a good image.

Store image appears to have no relationship with loyalty to a specific brand. Consumers perceive good store image when their self-concept is congruent with store image

(Sirgy and Samli 1985). Thus, if the store image does not match the perceived image of the product, consumers would not be impressed enough to show loyalty to the product. In other words, only when there is consistency between product and store images will consumers be loyal to the product that is available in the store.

Distribution intensity. Distribution is intensive when products are placed in a large number of stores to cover the market. To enhance a product's image and get substantial retailer support, firms tend to distribute exclusively or selectively rather than intensively. It has also been argued that certain types of distribution fit certain types of products. Consumers will be more satisfied, however, when a product is available in a greater number of stores because they will be offered the product where and when they want it (Ferris, Oliver, and de Kluyver 1989; Smith 1992). Intensive distribution reduces the time consumers must spend searching the stores and traveling to and from the stores, provides convenience in purchasing, and makes it easier to get services related to the product. As distribution intensity increases, therefore, consumers have more time and place utility and perceive more value for the product. The increased value results mostly from the reduction of the sacrifices the consumer must make to acquire the product. Such increased value leads to greater consumer satisfaction, perceived quality, and brand loyalty and consequently, greater brand equity. Accordingly, positive brand associations will increase along with a consumer's satisfaction with the product.

Hypothesis 2d: Perceived quality of a brand is related positively to the extent to which the brand is available in stores.

Hypothesis 2e: Brand loyalty is related positively to the extent to which the brand is available in stores.

Hypothesis 2f: Brand associations are related positively to the extent to which the brand is available in stores.

Advertising spending. Overwhelmingly, advertising researchers found advertising is successful in generating brand equity, whereas sales promotion is unsuccessful (Boulding, Lee, and Staelin 1994; Chay and Tellis 1991; Johnson 1984; Lindsay 1989; Maxwell 1989). Simon and Sullivan (1993) find a positive effect of advertising spending on brand equity. Cobb-Walgren, Beal, and Donthu (1995) find that the dollar amount spent on advertising has positive effects on brand equity and its dimensions.

Advertising is an important extrinsic cue signaling product quality (Milgrom and Roberts 1986). Heavy advertising spending shows that the firm is investing in the brand, which implies superior quality (Kirmani and Wright 1989). In addition, Archibald, Haulman, and Moody (1983) find that advertising spending levels are good indicators of not only high quality but also good buys. Aaker and Jacobson (1994) also find a positive

relationship between advertising and perceived quality. Hence, advertising spending is positively related to perceived quality, which leads to higher brand equity.

Advertising plays a pivotal role in increasing brand awareness as well as creating strong brand associations. Repetitive advertising schedules increase the probability that a brand will be included in the consideration set, which simplifies the consumer's brand choice, making it a habit to choose the brand (Hauser and Wernerfeldt 1990). Thus, a greater amount of advertising is related positively to brand awareness and associations, which leads to greater brand equity. In addition, according to an extended hierarchy of effects model, advertising is positively related to brand loyalty because it reinforces brand-related associations and attitudes toward the brand (Shimp 1997).

Hypothesis 2g: Perceived quality of a brand is related positively to the extent to which advertising is invested for the brand.

Hypothesis 2h: Brand loyalty is related positively to the extent to which advertising is invested for the brand.

Hypothesis 2i: Brand associations are related positively to the extent to which advertising is invested for the brand.

Price promotions. Sales promotion, in particular, price promotions (e.g., short-term price reductions such as special sales, media-distributed coupons, package coupons, cents-off deals, rebates, and refunds), are believed to erode brand equity over time despite immediate short-term financial gain. Sales promotion may not be a desirable way to build brand equity because it is easily copied and counteracted (Aaker 1991) and only enhances short-term performance by encouraging sales and momentary brand switching (Gupta 1988). In the long run, sales promotion may convey a low-quality brand image. Furthermore, frequent price promotions may jeopardize brands in the long run because they cause consumer confusion based on unanticipated differences between expected and observed prices, which results in an image of unstable quality (Winer 1986). Consumers cannot forecast correct point-of-purchase prices, and forecasting errors due to the gap between expected and observed prices negatively affect brand choice decisions as well as perceived quality, which leads to a decrease in brand equity. Also, price promotion campaigns do not last long enough to establish long-term brand associations, which can be achieved by other efforts such as advertising and sales management (Shimp 1997). Relying on sales promotion and sacrificing advertising would reduce brand associations, which leads to decreasing brand equity.

Hypothesis 2j: Perceived quality of a brand is related negatively to the extent to which price promotion is used for the brand.

Hypothesis 2k: Brand associations are related negatively to the extent to which price promotion is used for the brand.

Price promotions do not seem to be related to brand loyalty, although they are consistently found to enhance temporary brand switching (Gupta 1988). They often fail to establish a repeat purchase pattern after an initial trial. This is because consumers are momentarily attracted to the brand by the transaction utility that the price promotions provide, and when deals end, they lose interest in the brand. Thus, change in brand loyalty after the end of deals may not occur unless the brand is perceived to be superior to and meet consumer needs better than its competing products. Similarly, on the basis of self-perception theory, Dodson, Tybout, and Sternthal (1978) find that brand-switching behavior ends when it is attributable to price promotions (i.e., an external cause) rather than when it is attributable to a liking for the purchased product (i.e., an internal cause). Thus, the behavior disappears when the external cause is removed, and the loyalty level does not change.

METHOD

Scale Development

On the basis of items used in the literature and the definitions established in our research, we generated a pool of sample measures. All items were measured on 5-point Likert-type scales, with anchors of 1 = *strongly disagree* and 5 = *strongly agree*.

Marketing mix elements. We examined the perceived rather than actual marketing mix elements for two reasons. First, it was not feasible to control actual marketing efforts in the study. Second, perceived marketing efforts play a more direct role in the consumer psychology than actual marketing efforts. Actual marketing efforts cannot change consumer behavior unless consumers perceive them to exist. For example, objective or actual price has been conceptualized differently from perceived price; the actual price is encoded by the consumer as "expensive" or "cheap" (Olson 1977). Consumers are not likely to know or remember actual prices, even at the point of purchase (Dickson and Sawyer 1990). Likewise, perceived marketing efforts have a stronger meaning and hence explain consumer behaviors more effectively than actual marketing efforts.

Price was measured as it is subjectively perceived in the consumer's mind. Using Smith and Park's (1992) items, we developed eight items (e.g., "The price of X is high"). Advertising spending was measured as the consumer's subjective perception of advertising spending for the focal brand. Adopting Kirmani and Wright's (1989) scale, we

developed four items for advertising spending (e.g., "The ad campaigns for X are seen frequently"). Price promotions were measured as the perceived relative frequency of the price deals presented for the focal brand. We developed four items by replacing the word *advertising* in the advertising spending measures with the words *price deals*. Store image was measured as the perceived quality of retailers at which the focal brand was available. Adopting Dodds et al.'s (1991) items, we developed six items. Specific store names were not indicated in the items; instead, respondents were asked to evaluate generally the stores at which they could buy the brand (e.g., "The stores where I can buy X have a pleasant atmosphere" and "The stores where I can buy X have well-known brands"). The store image items deal with quality of all the product categories that the stores carry. Distribution intensity was measured by how many retail stores carry the focal brand in the consumer's perception. Such availability is an index of distribution intensity perceived by consumers. We adopted and modified Smith's (1992) three items (e.g., "More stores sell X, as compared to its competing brands").

Dimensions of brand equity. As we discussed previously, we recognize three dimensions of brand equity: perceived quality, brand loyalty, and brand associations with brand awareness. Perceived quality measures consumers' subjective judgment about a brand's overall excellence or superiority and addresses overall quality rather than individual elements of quality. We used seven items based on Dodds et al.'s (1991) work (e.g., "X must be of very good quality"). We designed five brand loyalty items to capture the overall commitment of being loyal to a specific brand based on Beatty and Kahle's (1988) work (e.g., "I consider myself to be loyal to X"). We designed 10 brand awareness/associations items to measure simple brand associations, incorporating brand recognition (see Rossiter and Percy 1987; Srull 1984). Brand associations are a much richer concept than mere awareness because the number of exposures does not guarantee more brand associations. What we measure with the multi-item scale is a mixed form of brand awareness and brand associations. For example, recalling specific brand characteristics, symbol, logo, and image as measured by the items goes beyond mere awareness, even though it may not reach Aaker's (1991) richer conceptualization of brand associations. Sample items include "I have no difficulty in imagining X in my mind" and "I can recognize X among other competing brands."

Overall brand equity. We developed a consumer-based overall brand equity scale (hereafter, OBE). Eighteen candidate items of OBE were based on two considerations consistent with our definition of brand equity. First, the respondent was asked to compare a focal branded product

with its unbranded counterpart. The same physical product without the brand name is the best referent object for measuring brand equity. A generic or store brand may not be a proper referent because it has its own brand equity resulting from store reputation and product utility. Competing brands could be useful and meaningful referents from a manager's perspective, but the brand equity of a product would differ greatly depending on which set of competing brands was identified and selected for comparison. Second, in each item, it was emphasized that all brand characteristics other than brand name were identical between the focal brand and its unbranded referent. The only differential information available to the respondents was brand name. Thus, consistent with previous research, each item was designed to measure the incremental value of the focal product due to the brand name. The respondents were asked to express their intention to select the focal product against its counterpart using items such as "If another brand has the same price and quality as X, it is smarter to purchase X" and "I would select X even if I find another brand whose characteristics are not different from those of X."

Product Stimuli Selection

Three diverse product categories, that is, athletic shoes, camera film, and color television sets, were selected as product stimuli for three reasons. First, they vary in many aspects, such as price, purchase frequency, and consumption length and situation, which broadens the scope and generalizability of the findings. Second, the great portion of the value of these products is explicitly attributable to the brand equity variance (Simon and Sullivan 1993), which is a condition suitable for brand equity studies. Third, respondents probably are familiar with those categories. If respondents have known and experienced the products well, they would be able to provide reliable and valid responses to the questionnaire. Twelve brands were chosen carefully: Adidas, Asics, LA Gear, Nike, Puma, and Reebok for athletic shoes; Agfa, Fuji, Kodak, and Konica for camera film; and Samsung and Sony for color television sets. The brands represent very different combinations of market factors such as price, quality, market share, brand and corporate reputation, marketing strategies, and country of origin.

Sample and Procedure

After a pretest ($N = 196$) to assess and purify the measures, we conducted a main survey to test the hypotheses, using data obtained from students enrolled at a major state university. Elimination of incomplete responses left 569 eligible responses for analysis. Average age of the respondents was 23.7 years; 47 percent were men and 53 percent were women; 34 percent worked full-time, 46 percent

worked part-time, and 20 percent did not work; and 66 percent were Caucasian, 23 percent were African American, 2 percent were Hispanic, 6 percent were Asian, and 3 percent were of other ethnic origins.

Twelve versions of the questionnaire were prepared, such that each version was customized for 1 of the 12 brands. The question items were identical across the versions, and only the brand name was different in the items. The selected brands were assigned randomly to the respondents, who were not given an opportunity to choose a questionnaire to ensure validity of findings. The number of responses ranged from 40 to 52 for the brands. There was no significant statistical difference in the number of responses among the different versions of the questionnaire ($\chi^2_{(11)} = 4.36, p = .96$).

Respondents completed the self-administered questionnaire. Instructions emphasized that "there are no right or wrong answers; only your personal opinions matter" to minimize possible response bias (see Aronson, Ellsworth, Carlsmith, and Gonzales 1990). In the introduction section of the questionnaire, the purpose of the study was described and the importance of a respondent's cooperation was stressed. The respondents were told that "the purpose of this study is to investigate how to manage brands successfully. To ensure valid and meaningful findings, we need your help."

The validity and generalizability of student samples have been questioned because the student population does not represent the general population or "real people." However, the use of student respondents was not a drawback for our study. First, surveys showed that the college students were primary consumers who had experienced (i.e., bought and/or consumed or owned) the three product categories used as stimuli in our study. The respondents' product category purchasing experience, measured by a yes-no item of "Have you ever bought any brand of [product category X]," was 96 percent for athletic shoes, 91 percent for camera film, and 83 percent for television sets. Their current ownership and current usage rates were 93 percent, 72 percent, and 92 percent for athletic shoes, camera film, and television sets, respectively. Therefore, the respondents were a relevant segment for our study because they were a major consumer segment for the selected products. Second, for theory-testing research, a student sample has been deemed acceptable and even desirable. A maximally homogeneous sample (e.g., a student sample) has important advantages for theory validation research (Calder, Philips, and Tybout 1981). In the current study, students were as appropriate participants as nonstudents because they were highly involved in the buying processes of packaged brands as buyers, consumers, or influencers, as shown by their purchase and usage rates.

RESULTS

Through the whole analysis process, the individual brands surveyed were ignored. The main goal of the study was to identify the relationships among research constructs as perceived in consumers' minds. We conducted an analysis of the correlation matrix for the nine constructs across the brands (i.e., five for marketing mix activities, three for the dimensions of brand equity, and OBE). The factors obtained from such an analysis should reveal reliable scales that are independent of one another (see Rummel 1970).

Measurement Model

Three methods (Cronbach's reliability, exploratory factor analysis, and confirmatory factor analysis) were used to select and assess the final items that would be used for hypothesis testing.

Step 1. Measure reliability check. Cronbach's measure reliability coefficient was first calculated for the items of each construct. When it reached .70, the cutoff level of reliability recommended for theory testing research (Nunnally and Bernstein 1994), the items that did not significantly contribute to the reliability were eliminated for parsimony purpose. As a result, 34 items were retained for the nine constructs: 3 each for price, store image, distribution intensity, advertising spending, and price promotions; 6 for perceived quality; 3 for brand loyalty; 6 for brand awareness/associations; and 4 for OBE. The items selected are reported in Table 1.

Step 2. Exploratory factor analysis. Exploratory factor analysis was then conducted to examine whether the items produce proposed factors and whether the individual items are loaded on their appropriate factors as intended. Factor analysis with an oblique rotation technique was conducted on all measure items, and as intended, nine distinct factors were found. Analysis with an orthogonal rotation technique also produced similar factor patterns, confirming discriminant and convergent validity of measures.

Step 3. Confirmatory factor analysis. Finally, confirmatory factor analysis was used to assess the items of the constructs more rigorously, based on the correlation matrix of the items (see Appendix A). Specifically, confirmatory factor analysis was used to detect the unidimensionality of each construct. Unidimensionality is evidence that a single trait or construct underlies a set of measures (Anderson and Gerbing 1988). This unidimensionality check updates the preceding paradigm of scale development and construct validity.

TABLE 1
Operational Measures and Scale Reliability Values^a

| <i>Item</i> | <i>Standardized Loading</i> | <i>t Value</i> |
|---|-----------------------------|----------------|
| Price ($\rho_C = .88$; $VE = .72$) ^b | | |
| PR1 The price of X ^c is high. | .94 | 30.78 |
| PR2 The price of X is low. (r) ^d | .74 | 21.64 |
| PR3 X is expensive. | .85 | 26.52 |
| Store image ($\rho_C = .84$; $VE = .62$) | | |
| IM1 The stores where I can buy X carry products of high quality. | .93 | 28.58 |
| IM2 The stores where I can buy X would be of high quality. | .82 | 23.99 |
| IM3 The stores where I can buy X have well-known brands. | .62 | 17.02 |
| Distribution intensity ($\rho_C = .87$; $VE = .70$) | | |
| DI1 More stores sell X, as compared to its competing brands. | .95 | 32.04 |
| DI2 The number of the stores that deal with X is more than that of its competing brands. | .93 | 30.64 |
| DI3 X is distributed through as many stores as possible. | .56 | 15.40 |
| Advertising spending ($\rho_C = .87$; $VE = .70$) | | |
| AD1 X is intensively advertised. | .89 | 28.78 |
| AD2 The ad campaigns for X seem very expensive, compared to campaigns for competing brands. | .66 | 18.82 |
| AD3 The ad campaigns for X are seen frequently. | .93 | 30.56 |
| Price deals ($\rho_C = .80$; $VE = .58$) | | |
| DL1 Price deals for X are frequently offered. | .59 | 15.53 |
| DL2 Too many times price deals for X are presented. | .94 | 26.49 |
| DL3 Price deals for X are emphasized more than seems reasonable. | .73 | 19.95 |
| Perceived quality ($\rho_C = .93$; $VE = .68$) | | |
| QL1 X is of high quality. | .87 | 28.21 |
| QL2 The likely quality of X is extremely high. | .93 | 31.49 |
| QL3 The likelihood that X would be functional is very high. | .82 | 25.91 |
| QL4 The likelihood that X is reliable is very high. | .87 | 28.07 |
| QL5 X must be of very good quality. | .84 | 26.69 |
| QL6 X appears to be of very poor quality. (r) | .60 | 16.80 |
| Brand loyalty ($\rho_C = .90$; $VE = .75$) | | |
| LO1 I consider myself to be loyal to X. | .85 | 27.12 |
| LO2 X would be my first choice. | .94 | 31.86 |
| LO3 I will not buy other brands if X is available at the store. | .81 | 25.23 |
| Brand associations with brand awareness ($\rho_C = .94$; $VE = .72$) | | |
| AA1 I know what X looks like. | .92 | 30.96 |
| AA2 I can recognize X among other competing brands. | .92 | 31.41 |
| AA3 I am aware of X. | .90 | 30.01 |
| AA4 Some characteristics of X come to my mind quickly. | .79 | 24.66 |
| AA5 I can quickly recall the symbol or logo of X. | .85 | 27.28 |
| AA6 I have difficulty in imagining X in my mind. (r) | .66 | 19.25 |
| Overall brand equity (OBE) ($\rho_C = .93$; $VE = .77$) | | |
| OBE1 It makes sense to buy X instead of any other brand, even if they are the same. | .79 | 24.23 |
| OBE2 Even if another brand has same features as X, I would prefer to buy X. | .94 | 32.62 |
| OBE3 If there is another brand as good as X, I prefer to buy X. | .94 | 32.17 |
| OBE4 If another brand is not different from X in any way, it seems smarter to purchase X. | .85 | 27.58 |

a. Goodness-of-fit statistics of the measurement model of 34 indicators for nine constructs are as follows: $\chi^2_{(491)} = 2225.10$, Root Mean Square Error of Approximation (RMSEA) = .077, Standardized Root Mean Square Residual (SRMR) = .069, Goodness-of-Fit Index (GFI) = .82, Adjusted Goodness-of-Fit Index (AGFI) = .78, Normed Fit Index (NFI) = .87, Non-Normed Fit Index (NNFI) = .88, Comparative Fit Index (CFI) = .89, and Incremental Fit Index (IFI) = .89.

b. Scale composite reliability and variance extracted.

c. X = the focal brand.

d. (r) = reverse-coded.

For the unidimensionality check, a measurement model was set to have nine factors (latent variables). One latent variable per indicator was allowed. Each item was prescribed to be loaded on one specific latent variable; thus, a perceived quality item was related to the perceived quality

factor and not to any other factor. A completely standardized solution produced by the LISREL 8 maximum-likelihood method (Jöreskog and Sörbom 1993) showed that all 34 items were loaded highly on their corresponding factors, which supported the independence of the

constructs and provided strong empirical evidence of their validity. The clean factor patterns shown in the exploratory factor analysis were consistently found in confirmatory factor analysis. The t values for the loadings ranged from 15.40 to 32.62, demonstrating adequate convergent validity. Overall fit statistics of the measurement model ($\chi^2_{(491)} = 2225.10$) were as follows: Goodness-of-Fit Index (GFI) and Adjusted Goodness-of-Fit Index (AGFI) were .82 and .78, respectively; comparative goodness-of-fit indexes were .87, .88, .89, and .89 in Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Comparative Fit Index (CFI), and Incremental Fit Index (IFI), respectively; Root Mean Square Error of Approximation (RMSEA) was .077; and Standardized Root Mean Square Residual (SRMR) was .069. These indicated a reasonable level of fit of the model (see Hu and Bentler 1999 for a review of cut-off criteria of fit indexes).

In addition, as reported in Table 1, the scale composite reliability and the average variance extracted for each construct were quite satisfactory (Fornell and Larcker 1981). The composite reliability (ρ_c), an internal consistency reliability measure as evidence of convergent validity computed from LISREL solutions, ranged from .80 to .94. The average variance extracted for each construct ranged from .58 to .77, exceeding the acceptable level of .50. In summary, the selected items made reliable and valid measures for the nine research constructs. The intercorrelations, means, and standard deviations of the constructs are reported in Appendix B.

Structural Model

Structural equation modeling (SEM) was used to estimate parameters of the structural model in Figure 2, and the completely standardized solutions computed by the LISREL 8 maximum-likelihood method are reported in Table 2. The structural model specified the perceived marketing efforts as the exogenous constructs (price as ξ_1 , store image as ξ_2 , distribution intensity as ξ_3 , advertising spending as ξ_4 , and price deals as ξ_5). The exogenous constructs were selectively related to three endogenous mediating constructs (i.e., dimensions of brand equity: perceived quality as η_1 , brand loyalty as η_2 , and brand associations as η_3), which were related to the last endogenous construct, OBE, as η_4 .

Goodness-of-fit statistics, indicating the overall acceptability of the structural model analyzed, were acceptable: $\chi^2_{(500)} = 2236.83$, RMSEA = .077, SRMR = .069, GFI = .82, AGFI = .78, NFI = .87, NNFI = .88, CFI = .89, and IFI = .89. Most path coefficients were significant ($p < .05$). The p values of the estimates for hypothesis testing were determined in one-tailed t tests. Because of the directional hypotheses, the rule of 1.65 t value was used as

the critical value at the .05 significance level. In most cases, the effect sizes, signs, and significance of the estimates were consistent with the results of the measurement model and the intercorrelations among the constructs.

Relationships of the dimensions of brand equity to brand equity. As hypothesized, perceived quality (Hypothesis 1a), brand loyalty (Hypothesis 1b), and brand associations with awareness (Hypothesis 1c) were significant dimensions of brand equity. Brand equity was positively related to perceived quality, brand loyalty, and brand associations. The relationships of perceived quality ($\beta_{41} = .10$, t value = 2.72) and associations ($\beta_{43} = .07$, t value = 2.06) to brand equity were much weaker than the relationship of brand loyalty to brand equity ($\beta_{42} = .69$, t value = 15.46). Consistent with previous conceptualizations (e.g., Swait, Erdem, Louviere, and Dubelaar 1993), this finding shows that the total value of a product can be decomposed into value due to brand attributes (i.e., product quality) and value due to the brand name (i.e., brand equity). Hence, perceived high product quality does not necessarily mean high brand equity.

However, when the correlation among the dimensions was specified in the structural model, the intercorrelations between brand loyalty and perceived quality ($\psi_{21} = .36$, t value = 9.02) and between brand loyalty and brand associations ($\psi_{32} = .22$, t value = 4.98) were significant. Thus, perceived quality and brand associations might affect brand equity by influencing brand loyalty first. As reflected in the relational paths among the constructs, loyalty is a more holistic construct, closer to brand equity, whereas quality and associations are specific evaluative constructs.

Relationships of marketing mix elements to the dimensions of brand equity. Empirical support was found for the relationships of marketing efforts to the dimensions of brand equity, as hypothesized by Hypothesis 2a to Hypothesis 2k. However, the relationship of distribution intensity to brand associations (Hypothesis 2f) was weak and insignificant (t value = .36). The t values for the hypothesized paths, except for Hypothesis 2f, ranged from 2.22 to 8.38. The weakest of the supported paths was price to perceived quality ($\gamma_{11} = .09$, t value = 2.22), and the absolute effect sizes of other paths ranged from .21 to .35.

Relationships of marketing mix elements to brand equity. The results for the research hypotheses lead to the development of a new set of hypotheses, which links the marketing mix elements to brand equity. The relationship of each marketing mix element to brand equity is mediated by brand equity dimensions. Because every brand equity dimension contributes positively to brand equity, if a marketing element affects brand equity dimensions positively, it is expected to lead to an increase in brand equity. Therefore,

TABLE 2
Structural Model Estimates^a

| <i>Hypothesized Relationship</i> | <i>Parameter</i> | <i>Estimate</i> | <i>t Value</i> | <i>Conclusion</i> |
|---|------------------|-----------------|----------------|-----------------------------------|
| Relationships of the dimensions of brand equity to brand equity | | | | |
| Hypothesis 1a Perceived quality → brand equity (+) ^b | β_{41} | .10 | 2.72 | Supported |
| Hypothesis 1b Brand loyalty → brand equity (+) | β_{42} | .69 | 15.46 | Supported |
| Hypothesis 1c Brand associations/awareness → brand equity (+) | β_{43} | .07 | 2.06 | Supported |
| Relationships of marketing mix elements to the dimensions of brand equity | | | | |
| Hypothesis 2a Price → perceived quality (+) | γ_{11} | .09 | 2.22 | Supported |
| Hypothesis 2b Store image → perceived quality (+) | γ_{12} | .32 | 8.38 | Supported |
| Hypothesis 2c Store image → brand associations/awareness (+) | γ_{32} | .33 | 7.78 | Supported |
| Hypothesis 2d Distribution intensity → perceived quality (+) | γ_{13} | .23 | 5.37 | Supported |
| Hypothesis 2e Distribution intensity → brand loyalty (+) | γ_{23} | .38 | 8.04 | Supported |
| Hypothesis 2f Distribution intensity → brand associations/awareness (+) | γ_{33} | .02 | .36 | Not supported (same direction) |
| Hypothesis 2g Advertising spending → perceived quality (+) | γ_{14} | .35 | 7.18 | Supported |
| Hypothesis 2h Advertising spending → brand loyalty (+) | γ_{24} | .35 | 7.51 | Supported |
| Hypothesis 2i Advertising spending → brand associations/awareness (+) | γ_{34} | .34 | 6.69 | Supported |
| Hypothesis 2j Frequency of price deals → perceived quality (–) | γ_{15} | –.21 | –5.51 | Supported |
| Hypothesis 2k Frequency of price deals → brand associations/awareness (–) | γ_{35} | –.21 | –5.03 | Supported |
| Relationships of marketing mix elements to brand equity ^c | | | | |
| Hypothesis 3a Price → brand equity (+) | — | .01 | 1.72 | Supported |
| Hypothesis 3b Store image → brand equity (+) | — | .05 | 3.87 | Supported |
| Hypothesis 3c Distribution intensity → brand equity (+) | — | .28 | 7.93 | Supported |
| Hypothesis 3d Advertising spending → brand equity (+) | — | .30 | 8.20 | Supported |
| Hypothesis 3e Frequency of price deals → brand equity (–) | — | –.04 | –3.60 | Supported |
| Goodness-of-fit statistics of the model | | | | |
| $\chi^2_{(500)} = 2236.83$ | | | | |
| Root Mean Square Error of Approximation (RMSEA) = .077 | | | | |
| Standardized Root Mean Square Residual (SRMR) = .069 | | | | |
| Goodness-of-Fit Index (GFI) = .82 | | | | |
| Adjusted Goodness-of-Fit Index (AGFI) = .78 | | | | |
| Normed Fit Index (NFI) = .87 | | | | |
| Non-Normed Fit Index (NNFI) = .88 | | | | |
| Comparative Fit Index (CFI) = .89 | | | | |
| Incremental Fit Index (IFI) = .89 | | | | |

a. Completely standardized estimates.

b. Hypothesized direction of effect.

c. The effects of the marketing mix elements on brand equity were measured by the indirect effect of marketing mix elements through all possible routes to brand equity.

Hypothesis 3a: The level of brand equity is related positively to the extent to which the price of the brand is perceived to be high.

Hypothesis 3b: The level of brand equity is related positively to the extent to which the brand is distributed through stores with a good image.

Hypothesis 3c: The level of brand equity is related positively to the extent to which the brand is available in stores.

Hypothesis 3d: The level of brand equity is related positively to the extent to which advertising is invested for the brand.

Hypothesis 3e: The level of brand equity is related negatively to the extent to which price promotion is used for the brand.

These hypotheses were judged by using an analysis of indirect effects of marketing mix variables on brand equity

(see Bollen 1989). In the structural model, no direct path between marketing mix variables and brand equity was specified. Instead, as conceptualized previously, brand equity was indirectly affected through the mediating brand equity dimensions. Thus, the effect size of a marketing mix element on brand equity was computed on the basis of all the relational routes between the element and brand equity. For example, the computation of the effect size of ad spending on brand equity was as follows: ad to perceived quality (γ_{14} of .35) \times perceived quality to brand equity (β_{41} of .10) + ad to brand loyalty (γ_{24} of .35) \times brand loyalty to brand equity (β_{42} of .69) + ad to brand associations (γ_{34} of .34) \times brand associations to brand equity (β_{43} of .07). The effect sizes of other marketing mix variables on brand equity were calculated in the same way. Price (.01, t value = 1.72), store image (.05, t value = 3.87), distribution intensity (.28, t value = 7.93), and advertising spending (.30,

t value = 8.20) had positive relationships to brand equity, as hypothesized. In contrast, frequency of price deals ($-.04$, t value = -3.60) had a negative relationship to brand equity. In summary, Hypothesis 3a to Hypothesis 3e were supported.

DISCUSSION

We explored the relationships between selected marketing efforts and brand equity. Specifically, we investigated the relational linkage between five perceived marketing mix activities and brand equity through the mediating role of three brand equity dimensions using a structural equation model and found some important implications for the brand equity creation process. The brand assets expressed as the dimensions of brand equity are related to brand equity, that is, the brand asset of the customer's holistic perception of the extra value due to the brand name. Brand loyalty, perceived quality, and brand awareness/associations are positively related to brand equity. Because brand equity is rooted in these dimensions, brand management should capitalize on the current strength of the dimensions. Brand-leveraging strategy that ignores the roots of brand equity may jeopardize the brand and its extensions (Aaker 1997).

Marketing Mix Elements and Building Brand Equity

The results recognize two types of marketing managerial efforts from a long-term perspective of brand management: brand-building activity and brand-harming activity. According to this analysis, frequent use of price promotions is an example of a brand-harming activity. High advertising spending, high price, distribution through retailers with good store images, and high distribution intensity are examples of brand-building activity. The findings and strategic implications for each marketing mix element examined are discussed.

Price. Price has been used as a major positioning tool to differentiate a product. According to the concept of value pricing, lowering the price increases the value of the product, creating a perception of savings (Dodds et al. 1991; Zeithaml 1988). However, brand equity may decrease when consumers strongly relate price to product quality and use price as a proxy for the quality. Consumers may perceive that a lower price is made by cutting costs and product quality to maintain profit margins. If possible, managers should avoid frequent price cuts or a consistent low-price strategy (e.g., everyday low price) because they lower perceived quality and product image. While maintaining the price level, managers can capitalize on technological progress, managerial efficiency, and customer service to enhance the value of the product. Combining an

equal or higher price level with more advanced product features may be the desirable pricing strategy from a brand equity perspective.

Store image. Managers should distribute products through vendors that have a good image because consumers infer the quality of products from the image and reputation of the store. Similar to price, retail reputation is an important signal of product quality (see Dawar and Parker 1994; Grewal, Krishnan, Baker, and Borin 1998). Also, word of mouth and the store's promotional activity enhance brand associations. Therefore, selecting good image stores as product vendors builds strong brand equity.

Distribution intensity. Distribution intensity is also highly correlated with brand equity. Intensive distribution does not necessarily mean selling through bad image stores, however. Making a product available in more stores affords convenience, time savings, speedy service, and service accessibility, thus increasing customer satisfaction. This might be true even for luxury products, for which managers traditionally tend to use a limited number of vendors.

However, such a role of distribution intensity might seem invalid because of the fit between distribution intensity and the type of product. Intensive distribution fits convenience goods, whereas selective distribution fits shopping or specialty goods. This counterargument, that distribution intensity should fit the type of product, was tested using a regression model, in which brand equity was regressed on distribution intensity, product luxuriousness, and the product as the moderating term. The degree of product luxuriousness was measured by one 5-point reversed item of "(Product category X) can be owned by everyone." The degree of ownership potential would be lower for shopping and specialty goods than for convenience goods. In regression analysis (F value = 31.98, $p < .0001$, $R^2 = .06$), product luxuriousness showed a significant moderating effect. The result showed that, for high luxurious goods, selective distribution is more acceptable than intensive ($\beta = -.07$, t value = -2.98 , $p < .01$). Therefore, luxuries (i.e., shopping and specialty goods) benefit from selective distribution. Despite such a significant moderating effect of product type, distribution intensity maintained its main effect on brand equity ($\beta = .18$, t value = 6.96, $p < .0001$). This main effect was substantial even after the moderating effect of luxuriousness was considered. Therefore, high distribution intensity may offer high brand equity for all types of products, although the effect varies somewhat depending on product luxuriousness.

Advertising. The hierarchy of effects model has shown that consumers tend to believe advertising statements and envision the product's likely performance on the basis of the claims (Richins 1995). Hence, as consumers are exposed to a brand's advertising more frequently, they de-

velop not only higher brand awareness and associations but also a more positive perception of brand quality, which leads to strong brand equity. One of the major reasons for a decrease in consumer loyalty is the decrease in advertising spending. By reinforcing the consumer's brand-related beliefs and attitudes, advertising contributes to strong brand loyalty (Shimp 1997). Brand image is complicated, based on multiple experiences, facts, episodes, and exposures to brand information, and therefore takes a long time to develop. Advertising is a common way to develop, to shape, and to manage that image. Managers should invest in advertising with a clear objective of increasing brand equity.

Price promotions. Frequent use of price promotions, such as price deals, coupons, refunds, and rebates, causes consumers to infer low product quality. Because they lead consumers to think primarily about deals and not about the utility provided by the brand (i.e., brand equity), price promotions do not enhance the strength of brand associations. Thus, sales promotions erode brand equity and must be used with great caution. Relying on sales promotions, which can be inconsistent with high quality and image, reduces brand equity in the long run, despite short-term financial success. Uniform pricing without price promotions is more desirable because it leads to consistency between the expected and the actual prices and implies high product quality. Instead of offering price promotions, managers should invest in advertising to develop brand equity.

Future Research

A very important future research issue is the interaction effect of brand equity dimensions on brand equity. To check this possibility empirically, researchers need to consider the model between the group of brand experiencers and the group of nonexperiencers and the model among groups of different brand loyalty levels distinguished by the behavioral pattern of repurchase records.

In addition, more dynamic interactions between brand equity and its consequences need to be investigated because, although brand equity is a product of marketing mix efforts, brand equity may be augmented at the same time as a result of customer value that resulted from previous brand equity. Past value to customers, for example, enhances brand loyalty, thereby leading to higher brand equity. On the basis of the information economics and market signaling theory, Swait and colleagues (1993) suggest that a product of high brand equity signals high quality when the customer imperfectly observes product attributes. The positive signal brings value for the customer, as Aaker (1991) proposes. In summary, brand equity and its consequences are likely to have reciprocal relationships by affecting one another. Longitudinal analysis may be helpful to reveal such dynamic relationships.

The role of brand equity in the firm's success also needs to be studied. Brand equity may generate value not only to the firm and the customer but also to the employee, the shareholder, and management because it is the only common integrating factor with which the organization can succeed (Schultz 1998). When every strategy and business decision is made to enhance brand equity, all stakeholders are likely to win. This stream of thought needs to be further elaborated.

Limitations

Although it provides theoretical and substantive explanations, our research has several limitations. Overcoming them can be a direction for future research. First, a major conceptual limitation is that our model tests only a few marketing efforts. Future studies should examine more marketing actions to enhance the explanatory power of the brand equity phenomenon. In addition, the variables of this study are too broad to provide tips for detailed marketing practices. For example, it should be accepted only with caution that all advertising builds a brand. Studying which type of advertising execution builds a strong brand will be more insightful for developing specific advertising strategy (Kalra and Goodstein 1998).

Second, our study examines the effect of individual marketing decision variables and does not investigate the interactions among them. Product could interact with price, and promotion could interact with distribution. It is the mix of marketing strategies that both scholars and managers need to understand in the context of developing and improving brand equity. Future research should explore the interaction effect of marketing mix on brand equity.

Third, we use perceptual, not actual, measures of marketing effort. It would be meaningful from a managerial perspective to use hard marketing data from secondary sources, such as scanner data and published survey reports or data from the firms that are marketing the focal brands. Also, we use a field survey method to test the research hypotheses. Because nothing is manipulated in this study, it is very difficult to make causal inferences from the correlational data. Perceived marketing efforts could be illusive reflections of brand equity, distinct from the actual marketing efforts. To investigate more rigorously the causal impact of each marketing effort and the brand equity formation process, researchers could design and conduct experiments manipulating the level of marketing effort. Hence, we call on future research to examine the effect of actual marketing variables on brand equity.

Fourth, when the actual marketing expenses are related to brand equity, as suggested, the role of brand equity as a return-on-investment measure in marketing is revealed. Corporate CEOs believe that brand equity is an ideal indicator of the performance of long-term marketing

investments and an ideal goal to enhance sales and profits simultaneously (Baldinger 1992). Because successful management of brand equity is a key to enhance value to the firm and the customer and is related directly to the long-term success of the product on the market, the changes in brand equity can explain the efficiency and effectiveness of marketing programs. Thus, how much the invested marketing expenses have enhanced brand equity can indicate the impact of marketing activities. Different kinds and executions of marketing result in a different degree of success in enhancing brand equity. Future research needs to investigate the linkage among the type of marketing program, marketing expenses, brand equity, and financial measures such as sales and profits.

Fifth, generalizability of the findings can be enhanced, replicating this study with more product categories, including profit or nonprofit services and industrial products, different types of subjects, and other cultures. In particular, cross-cultural research may reveal different processes of brand equity formation in different cultures. Cultural differences may moderate the effect of marketing efforts on brand equity. Little empirical research on brand equity in international markets has been reported. In addition, we ignore the contingencies under which marketing efforts might have inconsistent effects on brand equity, such as market structure (e.g., a seller's market versus buyers' market), competition, company condition, legal system, product categories, and consumer types.

Conclusion

Creating brand equity, that is, building a strong brand, is a successful strategy for differentiating a product from

competing brands (Aaker 1991). Brand equity provides sustainable competitive advantages because it creates meaningful competitive barriers. Brand equity is developed through enhanced perceived quality, brand loyalty, and brand awareness/associations, which cannot be either built or destroyed in the short run but can be created only in the long run through carefully designed marketing investments. Thus, brand equity is durable and sustainable, and a product with strong brand equity is a valuable asset to a firm. Our study shows the importance and roles of various marketing efforts in building strong brand equity. Managers can relate the findings to their brand-building strategies. To enhance the strength of a brand, managers must invest in advertising, distribute through retail stores with good images, increase distribution intensity, and reduce frequent use of price promotions. As for price, high brand equity may allow a company to charge a higher price because consumers are willing to pay premium prices.

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APPENDIX A Item Correlation Matrix

| Item | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | | |
|----------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| 1. QL1 | 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. QL2 | .83 1. | 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. QL3 | .70 .78 1. | | 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. QL4 | .70 .81 .70 1. | | | 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. QL5 | .69 .75 .71 .78 1. | | | | 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. QL6 | .55 .51 .50 .52 .50 1. | | | | | 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. LO1 | .49 .44 .32 .36 .43 .29 1. | | | | | | 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8. LO2 | .53 .51 .37 .42 .49 .32 .79 1. | | | | | | | 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. LO3 | .34 .29 .18 .22 .31 .14 .72 .76 1. | | | | | | | | 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10. AA1 | .46 .35 .37 .40 .40 .37 .27 .31 .15 1. | | | | | | | | | 1. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11. AA2 | .51 .39 .39 .41 .40 .40 .29 .29 .14 .86 1. | | | | | | | | | | 1. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12. AA3 | .47 .42 .50 .49 .44 .43 .24 .24 .10 .84 .85 1. | | | | | | | | | | | 1. | | | | | | | | | | | | | | | | | | | | | | | | |
| 13. AA4 | .50 .42 .45 .46 .45 .38 .41 .41 .28 .71 .71 .68 1. | | | | | | | | | | | | 1. | | | | | | | | | | | | | | | | | | | | | | | |
| 14. AA5 | .49 .40 .43 .47 .43 .38 .34 .36 .23 .76 .77 .72 .79 1. | | | | | | | | | | | | | 1. | | | | | | | | | | | | | | | | | | | | | | |
| 15. AA6 | .36 .33 .35 .41 .35 .43 .19 .19 .03 .59 .60 .57 .54 .65 1. | | | | | | | | | | | | | | 1. | | | | | | | | | | | | | | | | | | | | | |
| 16. OBE1 | .40 .35 .26 .27 .34 .22 .54 .56 .51 .23 .26 .22 .26 .23 .12 1. | | | | | | | | | | | | | | | 1. | | | | | | | | | | | | | | | | | | | | |
| 17. OBE2 | .47 .40 .29 .35 .41 .32 .60 .68 .58 .28 .29 .27 .32 .32 .20 .75 1. | | | | | | | | | | | | | | | | 1. | | | | | | | | | | | | | | | | | | | |
| 18. OBE3 | .46 .42 .34 .38 .42 .30 .58 .67 .60 .28 .28 .29 .31 .29 .16 .71 .89 1. | | | | | | | | | | | | | | | | | 1. | | | | | | | | | | | | | | | | | | |
| 19. OBE4 | .43 .37 .28 .30 .40 .29 .49 .56 .51 .26 .27 .26 .31 .29 .16 .70 .79 .81 1. | | | | | | | | | | | | | | | | | | 1. | | | | | | | | | | | | | | | | | |
| 20. PR1 | .36 .27 .26 .29 .29 .29 .15 .19 .06 .16 .19 .20 .21 .18 .17 .14 .14 .10 .11 1. | | | | | | | | | | | | | | | | | | | 1. | | | | | | | | | | | | | | | | |
| 21. PR2 | .36 .31 .30 .33 .33 .38 .12 .17 .01 .24 .26 .29 .25 .24 .28 .09 .12 .12 .05 .69 1. | | | | | | | | | | | | | | | | | | | | 1. | | | | | | | | | | | | | | | |
| 22. PR3 | .25 .24 .21 .24 .26 .22 .13 .19 .02 .10 .12 .16 .17 .12 .14 .12 .14 .12 .11 .81 .61 1. | | | | | | | | | | | | | | | | | | | | | 1. | | | | | | | | | | | | | | |
| 23. IM1 | .42 .35 .34 .36 .37 .24 .12 .11 .06 .33 .34 .33 .30 .37 .25 .14 .18 .17 .20 .20 .22 .20 1. | | | | | | | | | | | | | | | | | | | | | | 1. | | | | | | | | | | | | | |
| 24. IM2 | .39 .31 .29 .32 .33 .24 .09 .10 .01 .26 .25 .27 .22 .28 .18 .10 .16 .15 .17 .15 .22 .16 .77 1. | | | | | | | | | | | | | | | | | | | | | | | 1. | | | | | | | | | | | | |
| 25. IM3 | .32 .32 .38 .39 .33 .32 .06 .03 .07 .43 .42 .50 .38 .39 .38 .09 .11 .12 .13 .10 .18 .10 .57 .47 1. | | | | | | | | | | | | | | | | | | | | | | | | 1. | | | | | | | | | | | |
| 26. DI1 | .40 .39 .27 .35 .39 .25 .46 .53 .39 .14 .17 .15 .25 .21 .14 .34 .43 .37 .14 .19 .18 .11 .10 .09 1. | | | | | | | | | | | | | | | | | | | | | | | | | 1. | | | | | | | | | | |
| 27. DI2 | .34 .34 .25 .33 .33 .18 .41 .49 .41 .09 .13 .12 .26 .19 .08 .38 .43 .41 .40 .11 .12 .17 .13 .14 .08 .89 1. | | | | | | | | | | | | | | | | | | | | | | | | | | 1. | | | | | | | | | |
| 28. DI3 | .36 .34 .29 .28 .31 .16 .27 .33 .23 .25 .27 .24 .29 .34 .20 .26 .30 .25 .24 .14 .12 .16 .17 .12 .20 .53 .51 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | 1. | | | | | | | | |
| 29. AD1 | .49 .48 .35 .38 .39 .36 .43 .47 .34 .31 .34 .35 .40 .44 .26 .34 .41 .37 .34 .31 .31 .33 .24 .22 .17 .48 .47 .47 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1. | | | | | | | |
| 30. AD2 | .32 .37 .24 .30 .32 .18 .30 .37 .27 .06 .10 .07 .22 .21 .09 .30 .30 .29 .30 .32 .28 .33 .16 .16 .06 .38 .42 .26 .56 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1. | | | | | | |
| 31. AD3 | .43 .46 .35 .41 .40 .36 .45 .48 .36 .25 .30 .29 .38 .37 .25 .33 .36 .37 .32 .27 .31 .31 .24 .21 .17 .47 .46 .40 .83 .63 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1. | | | | | |
| 32. DL1 | .14 .14 .06 .12 .15 .03 .19 .22 .15 .06 .09 .09 .14 .14 .03 .14 .19 .22 .15 .23 .19 .16 .07 .03 .25 .25 .23 .23 .09 .31 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1. | | | | |
| 33. DL2 | -.01 .05 .11 .13 .06 .17 .15 .15 .14 .15 .10 .13 .02 .04 .20 .12 .12 .16 .08 .13 .13 .05 .01 .03 .13 .19 .22 .18 .15 .12 .21 .55 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1. | | | |
| 34. DL3 | -.05 .14 .23 .22 .15 .23 .05 .06 .10 .14 .13 .20 .10 .09 .24 .07 .05 .06 .05 .10 .16 .11 .05 .00 .14 .11 .14 .14 .07 .06 .39 .69 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NOTE: QL = perceived quality; LO = brand loyalty; AA = brand awareness associations; OBE = overall brand equity; PR = price; IM = store image; DI = distribution intensity; AD = advertising spending; DL = price deals.

APPENDIX B

Construct Intercorrelations

| Construct | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-------------------------------------|------|------|------|------|------|------|------|------|------|
| 1. Perceived quality | 1. | | | | | | | | |
| 2. Brand loyalty | .54 | 1. | | | | | | | |
| 3. Brand awareness/ associations | .55 | .34 | 1. | | | | | | |
| 4. Brand equity | .48 | .75 | .34 | 1. | | | | | |
| 5. Price | .37 | .18 | .23 | .15 | 1. | | | | |
| 6. Store image | .46 | .11 | .42 | .21 | .23 | 1. | | | |
| 7. Distribution intensity | .43 | .56 | .20 | .48 | .17 | .14 | 1. | | |
| 8. Advertising spending | .53 | .54 | .38 | .44 | .37 | .28 | .56 | 1. | |
| 9. Price deals | -.09 | .18 | -.13 | .15 | -.15 | -.01 | .24 | .22 | 1. |
| M | 3.48 | 2.29 | 3.43 | 2.61 | 3.16 | 2.62 | 2.92 | 2.91 | 2.75 |
| SD | .59 | .59 | 1.04 | .78 | .63 | .46 | .70 | .85 | .58 |

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