Measuring customer-based brand equity in the Iranian Lubricants market Case Study: Sepahan oil Company

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Abstract

Purpose – This study seeks to examine the practicality and applications of a customer based brand equity model in the Iranian Lubricants market.

Design/methodology/approach – Based on Aaker's well-known conceptual framework of brand equity, extend by Yoo & Donthu, this study employed structural equation modeling to investigate the causal relationships among the three dimensions of brand equity and overall brand equity in the Lubricants industry. The present study used a sample of 300 actual consumers from sepahan oil company consumer in Tehran.

Findings – The findings conclude that brand loyalty and Perceived Quality are influential dimensions of brand equity. Weak support was found for the brand associations / awareness dimension.

Research limitations/implications – Future research needs to be done if the results are to be expanded into other regional Iranians markets in light of the significant gaps between different regions. Further research also could strengthen this analysis by adding performance measurement into the model.

Practical implications – The paper shows that sepahan brand managers and marketing planners should consider the relative importance of brand equity in their overall brand equity evaluation, and should concentrate their efforts primarily on building brand loyalty.

Originality/value – This study contributes to the scant literature testing the applicability of consumer-based brand equity in the Lubricants industry. this study provides important insights about the understanding of Lubricants consumers' perceptions of overall brand equity and its dimensions.

Keywords: Brand equity, Lubricants, brand loyalty, brand associations / awareness, Perceived Quality.

Introduction

Brand equity is regarded as a very important concept in business practice as well as in academic research because marketers can gain competitive advantages through strong brands (Aaker, 1998; Keller, 1993, 2000). Many companies develop marketing strategies in order to improve their sales and to make their brands stand out among competitive ones. For most firms, the ultimate goal of marketing success is to generate a brand, which can differentiate their companies (Jung & Sung2008). A brand has also been defined as a: distinguishing name and symbol (such as a logo, trademark, or package design) intended to identify the goods or services of either one seller or a group of sellers, and to differentiate those goods or services from those of competitors (Aaker, 1991, p. 7).

from others Brand equity is regarded as a very important concept in business practice as well as in academic research because marketers can gain competitive advantages through strong brands (Aaker, 1998; Keller, 1993, 2000). Brand equity has been one of the most popular and potentially important marketing concepts since the 1980s (Keller, 1998). Since late 1980s there has been a frenzy of mergers and acquisitions in which brands have played the primary role. Increasingly, as the movement of brand valuation shifts from the developed economies to other areas of the world, especially to the emerging economies, the branding question changes considerably (Roth, 1995). Solomon and Stuart (2002), for instance, explained brand equity as the value that abrand has for a particular organization or company. As they put it: for a firm, brand equity provides a competitive advantage

because it gives the brand the power to capture and hold onto a larger share of the market and to sell at prices with higher profit margins (Solomon and Stuart, 2002, p. 273).
Aaker (1991) equates brand equity with the following elements: brand loyalty, brand awareness, perceived quality, brand association, and other proprietary brand assets. According to Yoo and Donthu (2001), and Washburn and Plank (2002), however, brand equity, specifically consumer-based brand equity, can be measured according to four According to Washburn and Plank (2002), the element of other proprietary brand assets is not appropriate to measure consumer-based brand equity. Here, consumer-based means that "cognitive and behavioral brand equity at the individual consumer level through a consumer survey" (Yoo and Donthu, 2001, p. 2).
It is important to examine which of the brand equity elements is important for consumers to recognize brand value and also, to make a purchase decision. Only a few studies have examined oil products to access brand equity of those brands in Iran. Although a number of companies that manufacture high-quality apparel oil products, to what extent apparel brand as an asset (i.e. brand equity) is unknown. There is a lack of studies on brand equity, especially those based on consumers in oil industry in Iran.
Thus, the purpose of this study was:
* To measure the consumer-based brand equity of oil products.

Review of literature

brand equity

In the last two decades, a growing amount of attention has been devoted by practitioners and academics to the conceptualization, measurement and management of brand equity (e.g. Aaker, 1991, 1996; Aaker & Keller, 1990; Ailawadi et al., 2003; Erdem, Swait, & Valenzuela, 2006; Keller, 1993, 1998; Netemeyer, Krishnan, Pulig, Wang, Yagci, & Dean, Ricks & Wirth, 2004), resulting in 'several often-divergent view-points on the dimensions of brand equity, the factors that influence it, the perspectives from which it should be studied, and the ways to measure it' (Ailawadi et al., 2003, p. 1). Despite the divergence of opinions and perspectives, a reasonable agreement concerning the definition of brand equity has been reached, which, in general sense, 'is defined in terms of the marketing effects uniquely attributable to the brand – for example, when certain outcomes result from the marketing of a product or service because of its brand name that would not occur if the same product or service did not have that name' (Keller, 1993, p. 1). The specific marketing effects related to brand equity can be analyzed at the level of firm outcomes, such as brand market share, revenue, and premium prices, or at These two levels of analyses are clearly linked because changes in firm outcomes, such as sales volume and profit, are usually aggregated consequence of consumer-based brand equity, such as brand image and attitude (cf. Ailawadi et al., 2003; Keller, 1998). Because of this relevance to strategic managerial decisions, much effort has been put into defining and measuring-based brand equity.The brand equity concepthas been mentioned in more than one of the previously analyzed models. But what exactly is brand equity? Brand equity, as first defined by Farquhar (1989), is "the 'added value' with which a given brand endows a product" (p. 24). Apart from Farquhar's first definition of brand equity, other definitions have appeared. According to Lassar, Mittal, and Sharma (1995), brand equity has been examined from a financial (Farquhar, Han, and Ijiri 1991; Simon and Sullivan 1993; Kapferer 1997, Doyle 2001b), and a customer-based perspective (Keller 1993; Shocker, Srivastava, and Rueckert 1994; Chen 2001). In other words, financial meaning from the perspective of the value of the brand to the firm, and customer-based meaning the value of the brand for the customer which comes from a marketing decision-making context (Kim, and Kim, 2003).
Brand equity has also been defined as "the enhancement in the perceived utility and desirability a brand name confers on a product" (Lassar, Mittal and Sharma 1995, p.13). High brand equity is considered to be a competitive advantage since: it implies that firms can charge a premium; there is an increase in customer demand; extending a brand becomes easier; communication campaigns are more effective; there is better trade leverage; margins can be greater; and the company becomes less vulnerable to competition (Bendixen, Bukasa, and Abratt 2003). In other words, high brand equity generates a "differential effect", higher "brand knowledge", and a larger "consumer response" (Keller 2003a), which normally leads to better brand performance, both from a financial and a customer perspective.

Financial Perspective

Financial value-based techniques extract the brand equity value from the value of the firm's other assets (Kim, Kim, and An 2003). Simon and Sullivan (1993) define brand equity as "the incremental cash flows which accrue to branded products over and above the cash flows which would result from the sale of unbranded products" (p. 29). Theseauthors estimate a firm's brand equity by deriving financial market estimates from brand-related profits. Taking the financial market value of a firm as a base, they extract the firm's brand equity from the value of the firm's other tangible and intangible assets, which results in an estimate based on the firm's future cash flows. Along the same line of thought, Doyle (2001b) argues that brand equity is reflected by the ability of brands to create value by accelerating growth and enhanc ing prices. In other words, brands function as an important driver of cash flow.

Customer Perspective
According to Lassar, Mittal and Sharma (1995), five dimensions configure brand equity: performance, value, social image, trustworthiness, and commitment. Aaker and Joachimsthaler (2000) define brand equity as brand assets linked to a brand's name and symbol that add to, or subtract from, a product or service. According to them, these assets, shown in Figure 2.7, can be grouped into four dimensions: brand awareness, perceived quality, brand associations, and brand loyalty.(figure1)

Brand Equity

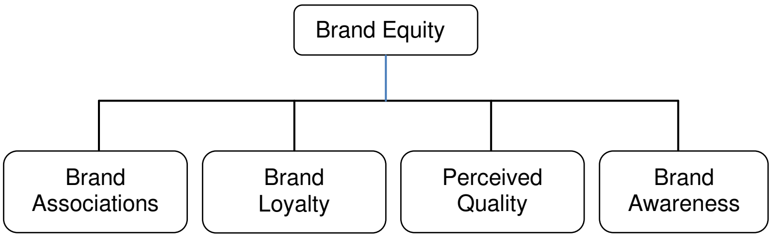


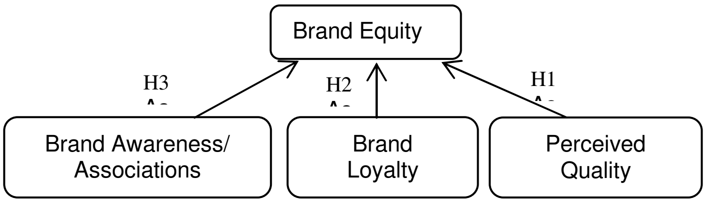
Figure 1
Source: Aaker and Joachimsthaler 2000

These dimensions have been commonly used and accepted by many researchers (Keller 1993; Motameni and Shahrokhi 1998; Yoo and Donthu 2001; Bendixen, Bukasa, and Abratt 2003; Kim, Kim, and An 2003). Brand awareness affects perceptions and taste: "people like the familiar and are prepared to ascribe all sorts of good attitudes to items that are familiar to them" (Aaker and Joachimsthaler 2000, p. 17). Perceived quality influences brand associations and affects brand profitability. Brand associations are anything that connects the consumer to the brand, including "user imagery, product attributes, organizational associations, brand personality, and symbols" (p. 17). "Brand loyalty is at the heart of brand's value. The concept is to strengthen the size and intensity of each loyalty segment" (p. 17). Any way that brand equity is considered, it can be understood as the incremental value a brand name grants a product (Srivastava and Shocker 1991).

Conceptual framework and research hypotheses

Conceptual framework
According to Keller (1993), there is both an indirect and a direct approach to measuring customer-based brand equity. The indirect approach tries to identify potential sources of such equity, whereas the direct approach focuses on consumer responses to different elements of the firm's marketing program. The implications of customer-based research suggest that measures of customers' brand perceptions are accurate reflections of brand performance in the marketplace. Strong, positive customer-based brand equity has a significant influence on the financial performance of the firms (Kim and Kim, 2004).
Brand equity is a multidimensional concept and a complex phenomenon. Keller (2002) separated it into two components: awareness and association. Aaker (1991, 1996) grouped it into five categories: perceived quality, brand loyalty, brand awareness, brand association, and other proprietary brand assets such as patents, trademarks, and channel relationships. Among these five brand equity dimensions, the first four represent customers' evaluations and reactions to the brand that can be readily understood by consumers (Barwise, 1993; Yoo and Donthu, 2001), so they have been widely adopted to measure customer-based brand equity in previous studies. In summary, strong brand equity means that customers have high brand-name awareness, maintain a favorable brand image, perceive that the brand is of high quality, and are loyal to the brand.
Among several brand equity models in the literature, this study uses the one constructed by Aaker (1991) and removed by Yoo and Donthu (2001) , which is the most commonly cited. It has been empirically tested in a number of previous studies (Atilgan et al., 2005; Kim and Kim, 2004; Yoo et al., 2000). With Aaker's brand equity model, this study sets out to retest the measurement of customer-based brand equity with oil products brands in the *Iranian* market, which is shown in Figure 2.

Figure 2: The relationship between brand equity and brand equity dimensions



Source: Yoo and Donthu, 2001

Perceived quality

Perceived quality is the "core/primary" facet across the CBBE framework (Aaker, 1996; Farquhar, 1989). It is not the real quality of the product but the customer's perception of the
Overall quality or superiority of the product (or service) with respect to its intended purpose, relative to alternatives (Zeithaml, 1988). Perceived quality lends value to a brand
in several ways: high quality gives consumers a good reason to buy the brand and allows the brand to differentiate itself from its competitors, to charge a premium price, and to have a strong basis for the brand extension (Aaker, 1991). Marketers across all product and service categories have increasingly recognized the importance of perceived quality in brand decisions (Morton, 1994). Kotler (1991) notes the intimate connection among product and service quality, customer satisfaction, and company profitability Based on the above definition and the suggested relationship of perceived quality (Tang & Hawly, 2009) and brand equity in the literature, the following hypothesis is formulated:

H1. Perceived quality has a significant positive direct effect on brand equity.

Brand loyalty

Brand loyalty is at the heart of brand equity. It is the major component (Aaker, 1991). Researchers have been challenged to define and measure brand loyalty. From a behavioral perspective, it is defined as the degree to which a buying unit, such as a household, concentrates its purchases over time on a particular brand within a product category (Schoell and Guiltinan, 1990). From an attitudinal perspective, brand loyalty is defined as "the tendency to be loyal to a focal brand as demonstrated by the intention to buy it as a primary choice" (Oliver, 1997). This study conceptualizes brand loyalty not on the basis of consumer behavior but rather on the basis of consumer perception. According to Aaker (1991), brand loyalty adds considerable value to a brand and/or its firm because it provides a set of habitual buyers for a long period of time. Loyal customers are less likely to switch to a competitor solely because of price; they also make more
frequent purchases than comparable non-loyal customers (Bowen and Shoemaker, 1998). Hence, the following hypothesis of the relationship between brand loyalty and brand equity is proposed:

H2. Brand loyalty has a significant positive direct effect on brand equity.

Brand association

Brand association is anything "linked" in memory to a brand (Aaker, 1991). It is believed to contain the meaning of the brand for consumers. Brand association can be seen in all forms and reflects features of the product or aspects independent of the product itself (Chen, 2001). A set of
An association, usually organized in some meaningful way, forms a brand image. Brand associations create value for the firm and its customers by helping to process/retrieve information, differentiate the brand, create positive attitudes or feelings provide a reason to buy, and provide a basis for extensions (Aaker, 1991). CBBE occurs when consumers have a high level of awareness and hold some strong, favorable, and unique brand associations in their memories (Tang & Howley 2009).

Brand awareness

Brand awareness is an important component of brand equity. It refers to the ability of a potential buyer to recognize or recall a brand as a member of a certain product category (Aaker, 1991). According to Keller (1993), brand awareness consists of two sub dimensions: brand recall and recognition. Brand recognition is the basic first step in the task of brand communication, whereby a firm communicates the product's attributes until a brand name is established with which to associate them. Brand awareness can be a sign of quality and commitment, letting consumers become familiar with a brand and helping them consider it at the point of purchase (Aaker, 1991). Thus, the following hypothesis is posited:

H3. Brand awareness/ association quality has a significant positive direct effect on brand equity.

Methodology

A research framework was designed to test the above hypothesized relationships in the Lubricants industry in Iran. For this purpose, the motors oil market was targeted.

Sample and data collection

the target population of this study was defined as consumers of sepahan oil company in Tehran.

Instrument and measures

The instrument was developed and administered in accordance with guidelines for designing an effective international marketing instrument (Brisling et al., 1973; Singh, 1995).
The survey questionnaire consisted of items for measuring the dimensions of brand equity, and overall brand equity, as well as demographic questions. Brand equity items were developed from existing scales to measure the five constructs on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

The scales of brand equity

Dimensions came primarily from previous research, with some adoptions. Perceived quality measured consumers' subjective judgments about a brand's overall excellence or superiority,
Using four items adopted from Aaker (1991) and Pappu et al. (2005). Measures for brand awareness were adopted from Aaker (1991) and Yoo et al. (2000), with five items measuring the strength of the brand in a consumer's memory as reflected by the consumer's ability to identify various elements of it. Brand personality (uniqueness and favorableness) and organizational associations were used as measures for brand association, four items for which were developed based on Aaker (1996), Keller (1993), and Pappu et al. (2005). Borrowed from Yoo et al. (2000) and Pappu et al. (2005), four items were used to capture the consumer's overall commitment to being loyal to a specific brand.

Endogenous factors

The scale of customer-based overall brand equity was largely derived from the work of Yoo et al. (2000) and other previous studies with the purpose of examining consumers' overall attitudes toward the focal brand and their intention to select the brand against its counterpart. An example of the four items developed was "If another brand is not different from X in any way, it seems smarter to purchase X" and "X is more than a product to me."

Data analysis

Of the total surveys collected, 300 were considered valid and were used in the final analysis. Structural equation modeling was employed for confirmatory factor analysis and path analyses. We followed the two-step approach recommended. In the first stage, the measurement model was analyzed to ensure sufficient reliability and validity of the constructs. In the second stage, the hypotheses of the relationships between constructs were tested. Model fit criteria suggested by Hu and Bentler (1999) were used for both the measurement and the structural model: (x2)/df , goodness of fit (GFI), adjusted goodness of fit (AGFI), comparative fit index (CFI), root mean square residual (RMR), and root mean square error of approximation (RMSEA). Acceptable models should have (x2)/df ≤ 3, AGFI ≥ 0.80, RMR ≤ 0.1, RMSEA ≤ 1.0, and GFI and CFI greater than 0.90.

Results

Demographic characteristics

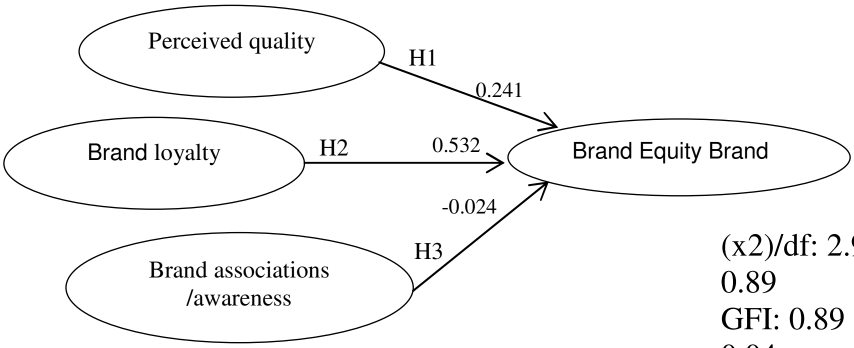
the distribution of demographic variables of the sample indicated that the respondents tended to be young, highly educated, single, and with moderate to high incomes. Among the 300 respondents 99 percent were male and 1Percent were female. About 66 percent were between 26-40 years of age, fewer than 35 percent had a college degree, 61 percent were married, and approximately 94 percent reported household month income of less than 2.000.000 Tomeans. Only fewer than 14 percent were Taxi driver.

Reliability and validity of measures

First, Cronbach's alpha coefficients were used to examine the internal consistency of the items, and items with adequate Cronbach's alphas were retained for the scales. For all
Constructs met the recommended cut-off value (Cronbach's alphas ≥ 0.7). As a result, all of the constructs were acceptable and a total of 22 items were retained for the five constructs in the study.

Structural model

According to our hypotheses, a structural equation modeling was developed to assess the statistical significance of the proposed relationships between overall brand equity and its
Dimensions (see Figure 2). Perceived quality, brand awareness, brand association, and brand loyalty were all taken as the exogenous variables, and brand equity was the endogenous variable. Here, all of the three exogenous variables were proposed to be interred correlated. The results provided strong support for H1 and H2, which indicated the positive and direct role of perused quality ($b_= 0.241$, $t_= 4.256$) and brand loyalty ($b_= 0.532$, $t_= 8.383$) in affecting brand equity. However, brand associations / awareness ($b_= -0.024$, $t_= -0.682$) was found to negative parameter estimates. Therefore, it was concluded that they did not have a direct significant influence on brand equity (seeTable II).



(x2)/df: 2.92 CFI: 0.89
GFI: 0.89 RMR: 0.04

Figure 3: Relationships between three dimensions of brand equity and overall brand equity

Table I Confirmatory factor analysis for the constructs

Item	Standardized factor loading	t-value
Perceived quality (a = 0.74, CR = 0.78 , AVE = 0.52)		
BQL1 X is of high quality	0.66	35.064
BQL2 The likelihood that X would be functional is very high.	0.67	32.253
BQL3 The likelihood that X is reliable is very high.	0.78	23.817
BQL4 X must be of very good quality.	0.81	24.403
Brand loyalty (a = 0.74, CR =0.90; AVE = 0.51)		
BL1 I consider myself to be loyal to X.	0.73	8.358
BL2 X would be my first choice.	0.73	13.731
BL3 I will not buy other brands if X is available at the store.	0.85	8.699
BL4 I would love to recommend X to my friends.	0.75	10.626

BL5 I am still willing to buy X even if its price is a little higher than that of its competitors.	0.71	9.488
Brand awareness (a:0.88 CR = 0.76; AVE = 0.56)		
BAW1 I know what X looks like.	0.70	22.376
BAW2 I can recognize X among other competing brands.	0.75	19.818
BAW3 I am aware of X.	0.80	20.797
BAW4 Some characteristics of X come to my mind quickly.	0.68	17.347
BAW5 I can quickly recall the symbol or logo of X.	0.71	14.921
Brand associations (a: 0.72		
BAS1 I like the brand image of X.	0.68	18.831
BAS2 I respect and admire people who use X.	0.70	16.769
BAS3 X is very innovation.	0.70	11.572
BAS4 I can imagination X in my mind.	0.73	11.023
Overall brand equity (OBE) (a:0.81, CR = 0.79; AVE = 0.61)		
OBEI It makes sense to buy X instead of any other brand even if they are the same.	0.68	14.682
OBE2 Even if another brand has same features as X, 1would prefer to buy X.	0.67	14.179
OBE3 If there is another brand as good as X. I prefer to buy X.	0.71	18.938
OBE4 If another brand is not different from X in any way, it seems smarter to purchase X.	0.70	26.002
Notes : a = Cronbach's alpha; CR = composite reliability; AVE = average variance extracted; X means the specific brand; – means the path parameter was set to 1, therefore, no t-value was given; all loadings are significant at 0.001 level.		

Two implications can be derived here. The first is that managers should concentrate their efforts primarily on brand loyalty & brand image, which have high importance in the construct of brand equity. In the highly competitive lubricate industry, the key is to create a unique, favorable, and strong brand image to provide customers with a reason to buy the brand, then work to keep their loyalty and gain their repeat business (Aaker, 1991; Tepeci, 1999). Celebrity/star endorsements, advertising across different media and non-price promotion are potentially effective marketing strategies to build a strong brand image and brand loyalty (Aaker, 1991; Cobb-Walgren et al., 1995; Fan and Pfitzenmaier, 2002; Keller, 2002; Yoo et al., 2000). The second implication is that marketing/brand managers should consider the Brand associations / awareness and try to promote this dimension by fit marketing plan.

Table II Results of hypotheses testing.

Hypotheses	Relationships	Standardized coefficient	t-value	p-value	Results
H1	Perceived quality → brand equity	0.241	4.256	0.0000	Supported
H2	Brand loyalty → brand equity	0.532	8.383	0.0000	Supported
H3	Brand association / awareness → brand equity	-0.024	-0.682	0.0000	Unsupported
Note: Explained variance(R2)= 0:80					

Table III Correlations among exogenous constructs

Exogenous constructs	Perceived quality	Brand loyalty	Brand association / awareness
Perceived quality	1.00		
Brand loyalty	0.62	1.00	
Brand association / awareness	0.42	0.66	1.00
Note: All correlations are significant at 0.001 levels			

Conclusions

The authors had predicted that perceived quality, brand awareness, brand association and brand loyalty would all directly influence brand equity. Study findings, however, provided support only for brand loyalty and perceived quality in this respect. In contrast, the influence of brand association / awareness was extremely low or negative. It was nevertheless suggested that these dimensions may impact on perceived quality and brand loyalty and in this way indirectly influence brand equity. Previous research had indicated the possibility of a "causal order" among the brand equity components. Earlier studies found brand loyalty to have the strongest effect on brand equity and the results here provided further evidence of this. On the other hand, they point to the lack of support for significant and positive direct influence on brand equity by brand association/awareness as evidence that success in the sepahan oil company cannot be assured through high quality or brand name alone.

Limitations and recommendations for further research

This study has two major limitations. First, it is limited to the lubricate industry and only sepahan oil company in Iran and focuses on only the one largest city, Tehran. Thus, future research needs to be done if the results are to be expanded into other regional Iranian markets in light of significant regional gaps in consumer attitudes and behaviors. It should also be noted that no performance measurements have been conducted in this study due to the inability to gather the required financial data. Including performance measurement and financial performance of the studied oil brands, e.g. sales and profit, would further strengthen this research.

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