The Effect of Brand Equity Components on Purchase Intention:

An Application of Aaker's Model in the Automobile Industry

Mohammad Reza Jalilvand[1]

Neda Samiei[2]

Seyed Hessamaldin Mahdavinia[3]

Abstract: The paper aims to investigate the effect of brand equity dimensions on purchase intention, based on Aaker's well-known conceptual framework in the automobile industry. Building on extensive literature, a model of consumers' purchase intention that includes the major determinants of brand equity model is proposed. Based on a sample of 242 consumers, structural equation modeling is used to test hypotheses. The research reveals that brand awareness, brand association, brand loyalty, and perceived quality have a significant impact on consumers' intention to purchase products. The paper suggests that marketers should carefully consider the brand equity components when designing their branding strategies. Marketers are also called on to adapt their branding approaches to fit each marketing environment and enhance brand loyalty to reduce the switching behavior of consumers. The paper clarifies the interrelation between the four brand equity model components and purchase intention.
Key words: Brand equity; Purchase intention; Structural equation modelling; Consumer behavior

1. INTRODUCTION

Brand equity refers to the incremental utility or value added to a product from its brand name. It is often believed to contribute to a company's long-term profitability. Despite automobile manufacturers' efforts to establish and maintain their brand equity, a clear measurement of such equity is still lacking. Because there are switching costs associated with changing manufacturer, for example, with after sale services and other customer loyalty programs, these need to be considered when examining relationships between brand equity and customer loyalty. This study looks at relationships between automobile manufacturer brand equity, and purchase intentions for prospective customers. Brand equity, when correctly and objectively

[1] Corresponding author. Department of Management, Faculty of Administrative Sciences and Economics, University of Isfahan, Azadi square, Isfahan, Iran.
E-mail: mrjd_reza2006@yahoomail.com
[2] Department of Economic, University of Isfahan, Isfahan, Iran.
E-mail: nedasamiei@gmail.com
[3] M.s in Tourism Management, Department of Management, Ashrafi Isfahani and Almahdi Institutes, Isfahan, Iran.
E-mail: he.mahdavinia@gmail.com
*Received 27 February 2011; accepted 8 April 2011

measured, is the appropriate metric for evaluating the long-run impact of marketing decisions (Simon and Sullivan, 1993). Positive customer-based brand equity, in turn, can lead to greater revenue, lower costs, and higher profits; and it has direct implications for the firm's ability to command higher prices, customers' willingness to seek out new distribution channels, the effectiveness of marketing communications, and the success of brand extensions and licensing opportunities (Keller, 2003). Brand equity is a multi-dimensional concept and a complex phenomenon, some dimensions of which have been empirically tested in the literature. Among several brand equity models in the literature, we have chosen that constructed by Aaker (1991) because of the popularity of this model in branding research. It has been probed in a number of empirical investigations (Eagle and Kitchen, 2000; Yoo et al., 2000; Faircloth et al., 2001; Washburn and Plank, 2002; Atilgan et al., 2005; Pappu et al., 2005; Kayaman and Arasli, 2007; Chen and Chang , 2008), the most critical parts of which involve the verification of the dimensions on which brand equity is based. They developed a multidimensional, customer-based brand equity scale using Aaker's (1991) four theoretically defined dimensions. Previous research focused on testing Aaker's (1991) model in the different contexts such as airlines, hostelling, and beverage, but none of them investigated the effect of brand equity on consumers' purchase intention. In an attempt to explore the relationship between dimensions of Aaker's (1991) model and purchase intention, this study set out to determine the effect of the most popularly adopted brand equity dimensions on purchase intention. The rest of this paper is organized as follows. First, we present a brief literature review on Aaker's brand equity. Second, we propose the research model based on literature and purpose of study. Lastly, we discuss conclusions and implications of this paper, and provide some suggested directions for further research on this topic.

2. LITERATURE REVIEW

The present research employs brand equity based on Aaker's (1991) model. Aaker built his model on four dimensions. Each is briefly reviewed below, together with the related hypotheses which have been separately tested in the succeeding sections of this study.

2.1 Brand Awareness

Brand awareness refers to the strength of a brand's presence in consumers' minds and is an important component of brand equity (Aaker, 1991; Keller, 1993). Aaker mentioned several levels of brand awareness, ranging from mere recognition of the brand to dominance, which refers to the condition where the brand involved is the only brand recalled by a consumer. Aaker (1991, p. 61) defines brand awareness as "the ability of the potential buyer to recognize and recall that a brand is a member of a certain product category". According to Keller, brand recall refers to consumers' ability to retrieve the brand from memory, for example, when the product category or the needs fulfilled by the category are mentioned. Keller (1993, p. 3) argued that "brand recognition may be more important to the extent that product decisions are made in the store". Customer-based brand equity occurs when the consumer has a high level of awareness and familiarity with the brand and holds some strong, favorable, and unique brand associations in memory.

2.2 Brand Association

A brand association is "anything linked in memory to a brand" (Aaker, 1991, p. 109). Aaker (1991) argued that a brand association has a level of strength, and that the link to a brand (from the association) will be stronger when it is based on many experiences or exposures to communications, and when a network of other links supports it. Brand associations may reflect characteristics of the product. Product associations and organizational associations are taken as the two mostly referred categories according to Chen's (2001) brand association typology. Further, Aaker (1991) suggested that brand associations could provide value to the consumer by providing a reason for consumers to buy the brand, and by creating positive attitudes/feelings among consumers. Rio et al. (2001) proposes that brand associations are a key element in brand equity formation and management. In this respect, high brand equity implies that consumers have strong positive associations with respect to the brand.

2.3 Perceived Quality

Perceived quality is another important dimension of brand equity (Aaker, 1991). Perceived quality is not the actual quality of the product but the consumer's subjective evaluation of the product (Zeithaml, 1988, p. 3). It is a competitive necessity and many companies today have turned customer-driven quality into a potent strategic weapon. They create customer satisfaction and value by consistently and profitably meeting customer's needs and preferences for quality. Kotler (2000) draws attention to the intimate connection among product and service quality, customer satisfaction, and company profitability.

2.4 Brand Loyalty

Brand loyalty is a major component of brand equity. Aaker (1991, p. 39) defines brand loyalty as a situation which reflects how likely a customer will be to switch to another brand, especially when that brand makes a change, either in price or in product features. Javalgi and Moberg (1997) defined brand loyalty according to behavioral, attitudinal, and choice perspectives. While behavioral perspective is based on the amount of purchases for a particular brand, attitudinal perspective incorporates consumer preferences and dispositions towards brands. Definitions regarding the choice perspective focus on the reasons for purchases or the factors that may influence choices. These brand loyalty definitions were empirically researched under three major categories: multi domain approach, behavioral approach, and attitudinal approach (Rundle-Thiele and Bennett, 2001). Oliver (1997) defines brand loyalty as a deeply held commitment to rebuy or repatronise a preferred product or service consistently in the future, despite situational influences and marketing efforts having potential to cause switching behavior. Oliver's definition emphasizes the behavioral dimension of brand loyalty, whereas Rossiter and Percy (1987) argued that brand loyalty is often characterized by a favorable attitude towards a brand and repeated purchases of the same brand over time. Brand loyalty is also conceptualized based on an attitudinal perspective. Chaudhuri and Holbrook (2001, p. 82) argued that "attitudinal brand loyalty includes a degree of dispositional commitment in terms of some unique value associated with the brand". From an attitudinal perspective, brand loyalty was defined as "the tendency to be loyal to a focal brand, which is demonstrated by the intention to buy the brand as a primary choice" (Yoo and Donthu, 2001, p. 3).

2.5 The Relationship between Brand Equity and Purchase Intention

Although empirical evidence indicated that brand equity can affect purchase intention in various contexts (Ashil and Sinha, 2004; Chang and Liu, 2009), the number of studies which apply Aaker's brand equity model to measure the effect of its dimensions on purchase intention is limited. According to Keller (2003), brand awareness plays an important role in consumer decision making by bringing three advantages; these are learning advantages, consideration advantages, and choice advantages. Brand associations represent basis for purchase decisions and also create value to the firm and its customers. Aaker (1991) has listed benefits of brand associations as follows: helping to process/retrieve information, differentiating the brand, generating a reason to buy, creating positive attitudes/feelings, and providing a basis for extensions. Similar to brand associations, perceived quality also provides value to consumers by providing them with a reason to buy and by differentiating the brand from competing brands. According to the literature, while the definitions of brand loyalty based on the attitudinal perspective emphasized consumer intentions to be loyal to the brand, the definitions based on a behavioral perspective accentuated consumer's actual loyalty to the brand as reflected in purchase intention. Thus, we conceptualize brand loyalty based on a behavioral perspective. In sum, this study investigates whether consumers' purchase intention is associated with brand awareness, brand associations, perception of quality and brand loyalty.

3. METHODOLOGY

Based on the brand equity literature, four hypotheses are examined as follows (see Fig. 1):

H1. Brand awareness has a significant direct effect on purchase intention.

H2. Brand association has a significant direct effect on purchase intention.

H3. Perceived quality has a significant direct effect on purchase intention.

H4. Brand loyalty has a significant positive direct effect on purchase intention.

The framework embraces information on four dimensions, including brand awareness (three items), brand associations (three items), perceived quality (four items) and brand loyalty (four items) all measured by using a seven-point Likert-type scale. Purchase intention, with three elements, considers respondents' likelihood of purchasing the brand in question by using a seven-point Likert-type scale. Respondents were asked to rate automobile X on a seven-point scale of agreement-disagreement, indicating how well automobile X performs on that attribute. The advantage of using an interval scale is that it permits the researchers to use a variety of statistical techniques which can be applied to nominal and ordinal scale data in addition to the arithmetic mean, standard deviation, product-moment correlations, and other statistics commonly used in marketing research (Malhotra, 1999). A self-administered questionnaire is used to collect data from prospective customers who referred to Iran Khodro's agencies. The questions are based on a review of the literature and specific product contexts, and the questionnaire was pre-tested and revised. The questionnaires were distributed based on a ''cluster'' sampling method and collected at Iran Khodro's agencies in Isfahan during the month of November 2010. Three hundred questionnaires were distributed and 242 useable samples were obtained after excluding the incomplete ones, yielding an 81% response rate from those who agree to participate. Cronbach's alpha was used to verify the internal consistency reliability. The purchase intention shows a significant internal consistency of 0.804. Cronbach's coefficients of brand awareness, brand associations, perceived quality and brand loyalty were 0.88, 0.90, 0.84 and 0.86, respectively. The reliabilities of the different measures in the model range from 0.80 to 0.92, which exceed the recommended threshold value of 0.70 (Nunnally, 1978). Data analysis involves descriptive statistics and structural equation modeling using AMOS structural equation program. AMOS is designed to estimate and test structural equation models (SEMs). SEMs are statistical models of linear relationships among latent (unobserved) variables and manifest (observed) variables. It is also used for exploratory and confirmatory factor analysis, as well as path analysis. Its purpose is estimating the coefficients in a set of structural equations. For this research AMOS is used to investigate the causal relationships, where the path coefficients are tested for significance and goodness-of-fit. The path diagram of the structural model specified (see Figure 1) is proposed based on the past literature in Section 2.
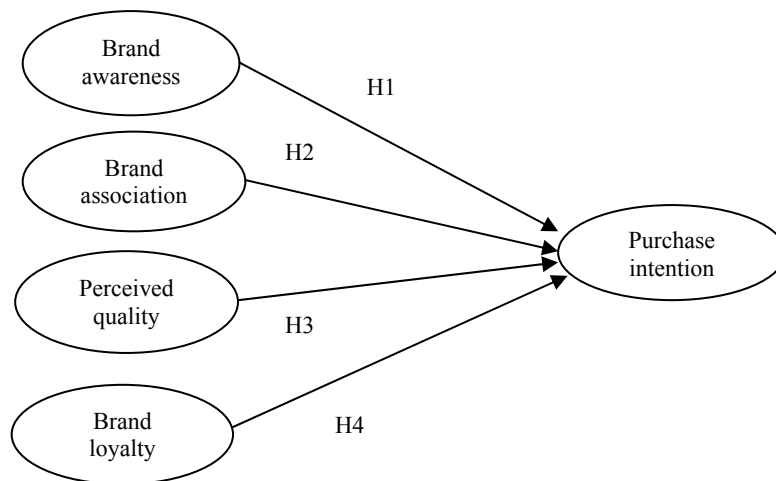

Figure 1: The Research Model

4. STRUCTURAL EQUATION MODELING (SEM) ANALYSIS

SEM is a model analysis technique encompassing methods such as covariance structure analysis, latent variable analysis, confirmatory factor analysis, path analysis and linear structural relation analysis (Hair et

al., 1998, p. 584). Generally, SEM is used to estimate ''multiple and interrelated dependence relationship and the ability to represent unobserved concepts in these relationships and account for measurement error in the estimation process'' (Hair et al., 1998, p. 584). SEM is particularly useful in this paper because it can estimate ''a series of separate, but interdependent, multiple regression equations simultaneously'' in a specified structural model (Hair et al., 1998, p. 584). Therefore, SEM is the most suitable analysis to estimate the strength of causal relationship between brand equity components and purchase intention. The matrix of construct correlations appears in Table 1. All variables were correlated at the level of ($p < 0.001$).

SEM Results

Regarding SEM applications, Hair et al. (1998) asserts that there are three most basic measures of absolute fit of the model: the likelihood-ratio chi-square, the goodness-of-fit index, and the root-mean-square residual. In the present study, the chi-square value of 254.90 with 115 degrees of freedom was found to be statistically significant at ($p < 0.00$) level (Table 2). The comparative fit index (CFI) value of 0.912 is at a marginal acceptance level, as is the root mean square residual (RMSR) value of 0.51. The root mean square error of approximation has a value of 0.045, which falls inside the acceptable range of 0.08 or less. Thus, all of the absolute fit measures indicate that the model is marginally acceptable at best (see Figure 2).

Table 1-a: Correlation Matrix for Statements

	BAS1	BAS2	BAS3	BAW1	BAW2	BAW3	PQU1	PQU2	PQU3	PQU4
BAS1	1									
BAS2	0.287	1								
BAS3	0.367	0.322	1							
BAW1	0.349	0.377	0.435	1						
BAW2	0.372	0.318	0.385	0.279	1					
BAW3	0.324	0.374	0.401	0.362	0.303	1				
PQU1	0.417	0.359	0.442	0.416	0.42	0.399	1			
PQU2	0.364	0.418	0.435	0.405	0.358	0.427	0.207	1		
PQU3	0.434	0.4	0.362	0.399	0.391	0.314	0.347	0.31	1	
PQU4	0.411	0.41	0.429	0.43	0.382	0.359	0.353	0.339	0.336	1
BLO1	0.391	0.342	0.4	0.291	0.333	0.331	0.334	0.4	0.354	0.434
BLO2	0.384	0.361	0.42	0.39	0.406	0.338	0.433	0.322	0.465	0.46
BLO3	0.34	0.359	0.344	0.4	0.332	0.332	0.397	0.359	0.435	0.445
BLO4	0.366	0.437	0.374	0.389	0.408	0.338	0.41	0.391	0.524	0.424
PI1	0.503	0.527	0.447	0.507	0.477	0.498	0.475	0.476	0.477	0.43
PI2	0.477	0.411	0.537	0.474	0.436	0.421	0.504	338	0.428	0.493
PI3	0.3327	0.427	0.426	0.37	0.369	0.392	0.42	0.371	0.42	0.352

Table 1-b: Correlation Matrix for Statements

	BLO1	BLO2	BLO3	BLO4	PI1	PI2	PI3
BAS1							
BAS2							
BAS3							
BAW1							
BAW2							
BAW3							
PQU1							
PQU2							
PQU3							
PQU4							
BLO1	1						
BLO2	0.252	1					
BLO3	0.256	0.401	1				
BLO4	0.293	0.471	0.468	1			
PI1	0.411	0.517	0.478	0.44	1		
PI2	0.431	0.413	0.388	0.452	0.344	1	
PI3	0.344	0.481	0.359	0.431	0.292	0.258	1

Apart from the model's general fit for the data, it is also important to test its parameters. The significance tests for the structural model parameters are the basis for accepting or rejecting the proposed relationships between exogenous and endogenous constructs (Hair et al., 1998). The four exogenous constructs (perceived quality, brand loyalty, brand associations, and brand awareness) were proposed to be the antecedents of purchase intention. The estimated model results provided strong support for all four hypotheses (Table 3). H1, H2, H3, and H4 which underlined the positive and direct role of brand awareness, brand association, perceived quality and brand loyalty, in affecting purchase intention were accepted as their coefficient was significant and had the appropriate sign. Therefore, as far as the present empirical research is concerned, brand loyalty, perceived quality, brand awareness, and brand associations have a direct significant influence on purchase intention. It should be noted that the correlations of the four exogenous constructs were significant and all positive (Table 1). This suggests that these constructs are somehow interlinked with one another.

Table 2: Goodness of Fit Measures for the Estimated Model

| Goodness-of-fit measure	Estimated model
Absolute fit measures	
Likelihood-ratio chi-square (χ^2)	254.90
Degrees of freedom	115
Non-centrality parameter (NCP)	217.950
Goodness-of-fit index (GFI)	0.917
Root mean square residual (RMSR)	0.51
Root mean square error of approximation (RMSEA)	0.48
Expected cross-validation index (ECVI)	0.903
Incremental fit measures	
Adjusted goodness of fit index (AGFI)	0.910
Normed fit index (NFI)	0.903
Parsimonious fit measures	
Parsimonious norm fit index (PNFI)	0.724
Parsimonious goodness of fit index (PGFI)	0.826
Model (AIC)	267.860
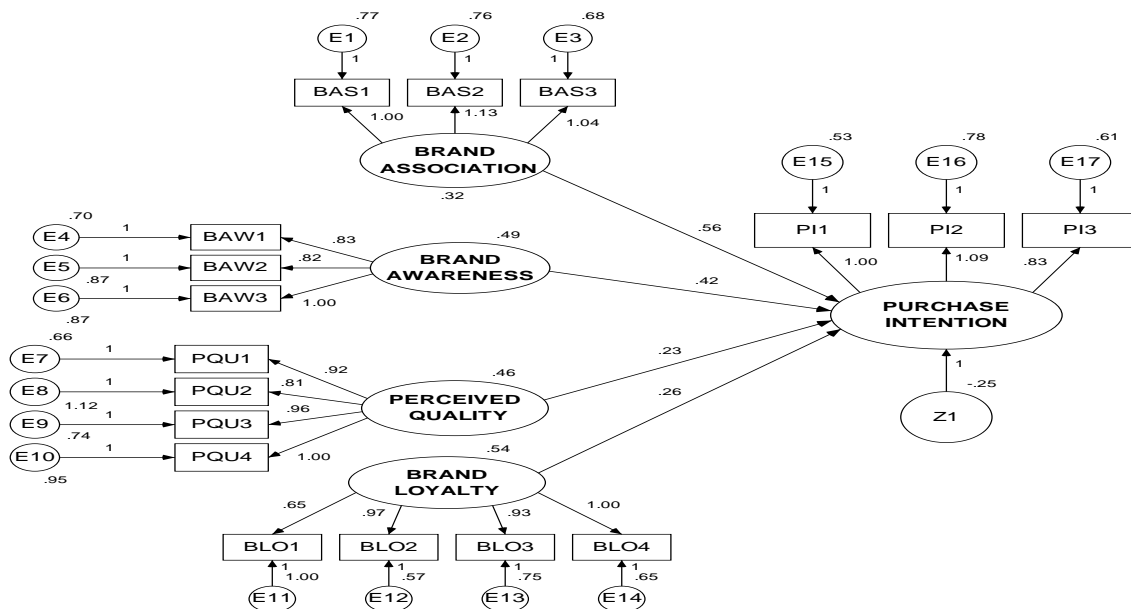
Figure 2: Standardized Path Coefficients for Research Variables

Table 3: Hypothesis results for the structural model

Research hypothesis	Path coefficients	Standardized coefficients	SE	CR	Conclusion
H1:Brand awareness ⟶ purchase intention	0.445	0.417	0.066	6.290	Supported*
H2:Brand association ⟶ purchase intention	0.568	0.555	0.091	6.115	Supported*
H3:Perceived quality ⟶ purchase intention	0.242	0.227	0.045	5.023	Supported*
H4:Brand loyalty ⟶ purchase intention	0.287	0.259	0.041	.319	Supported*

* Significant at the level of $p < 0.001$

5. DISCUSSION AND MANAGERIAL IMPLICATIONS

This study has taken a fresh look at a familiar phenomenon, branding, which receives continuous attention from academic researchers, managers and media commentators. This interest is best demonstrated by such indicators as the appearance of special journal issues and conferences devoted to various aspects of branding. The specific topics handled in this context include brand strategy and management, brand identity, brand image, brand names, brand extensions, and brand equity. The main focus of this study, brand equity, has been defined in several ways by different stakeholders. Strategic, financial, and customer implications of brand equity have resulted in the emergence of different definitions. However, the most comprehensive and widely accepted definition has come from Aaker (1991, p. 15) who defined it as "a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers". Despite this richness in conceptual and operational definitions and models for brand equity, there is a marked scarcity of quantitative research examining its constructs based on solid empirical data. This study therefore aimed to apply the Aaker's brand equity model, as the most common conceptual framework among several in order to predict purchase intention in the context of automobile industry. It also set out to verify the findings of previous studies by Ashil and Sinha (2004) and Chang and Liu (2009), but this time in a different country and industrial context. Furthermore, the empirical data and the statistical tests in this study support the existence of a direct causal relationship between the four dimensions – brand loyalty, brand awareness, brand associations, and perceived quality – and purchase intention. However, observed pairwise comparisons of the proposed model dimensions suggested that there is a correlation between brand loyalty, brand awareness, brand loyalty and perceived quality. Marketing managers should concentrate their efforts primarily on brand equity components which, if increased, will contribute positively to their firm's brand equity and as a result increased intention to purchase a specific brand. Another point that might be considered is the inter-correlations between the constructs. According to Aaker (1991), while brand awareness builds the familiarity-liking sight and is a signal of substance/commitment, perceived quality acts as a differentiation tool. As a result we suggest that on concentrating brand loyalty, managers should not undervalue the effects of brand awareness and perceived quality to brand loyalty. The second implication is for academics and researchers, that further quantitative research is needed to identify the determinants of brand equity using cross-country and cross-industry applications to predict purchase behavior in various contexts.

REFERENCES

Aaker, D.A. (1991). *Managing Brand Equity*. The Free Press, New York, NY.

Aaker, D.A. (1996). *Building Strong Brands*. The Free Press, New York, NY.

Andreassen, T. W. and Lindestad, B. (1998). Customer Loyalty and Complex Services. *International Journal of Service Industry Management*, 9(1), 7-23.

Agarwal, M.K. and Rao, V.R. (1996). An empirical Comparison of Consumer-Based Measures of Brand Equity. *Marketing Letters*, *7*(3), 237-247.

Ashill, N. J. and Sinha, A. (2004). An Exploratory Study into the Impact of Components of Brand Equity and Country of Origin Effects on Purchase Intention. *Journal of Asia - Pacific Busines*s, *5*(3), 27.

Atilgan, E., Aksoy, S. and Akinci, S. (2005). Determinants of the Brand Equity: A Verification Approach in the Beverage Industry in Turkey. *Marketing Intelligence & Planning, 23*(3), 237-248.

Aydin, S. and Ozer, G. (2005). The Analysis of Antecedents of Customer Loyalty in the Turkish Mobile Telecommunication Market. *European Journal of Marketing*, *39*(7/8), 910-925.

Bowen, J.T. and Shoemaker, S. (1998). Loyalty the Strategic Commitment. *Cornell Hotel and Restaurant Administration Quarterly*, February, 12-25.

Chang, H. H. and Liu, Y. M. (2009). The Impact of Brand Equity on Brand Preference and Purchase Intentions in the Service Industries. *The Service Industries Journal*, *29*(12), 1687.

Chaudhuri, A. and Holbrook, M.B. (2001). The Chain of Effects from Brand Trust and Brand Affect to Brand Performance: The Role of Brand Loyalty. *Journal of Marketing*, *65*(2), 81-93.

Chen, A.C. (2001).Using Free Association to Examine the Relationship between the Characteristics of Brand Associations and Brand Equity. *Journal of Product & Brand Management*, *10*(6/7), 439-49.

Eagle, L. and Kitchen, P. (2000). Building brands or bolstering egos? A comparative review of the impact and measurement of advertising on brand equity. *Journal of Marketing Communications*, 6 (2), 91-106.

Faircloth, J.B., Capella, L.M. and Alford, B.L. (2001). The Effect of Brand Attitude and Brand Image on Brand Equity. *Journal of Marketing Theory & Practice*, *9*(3), 61-75.

Feldwick, P. (1996). What is Brand Equity Anyway, and How do You Measure It? *Journal of the Market Research Society, 38*(April), 85-104.

Hair, J.F., Anderson, R.E., Tatham, R.L. and Black, W.C. (1998). *Multivariate Analysis* (5th ed.). Englewood Cliffs, NJ: Prentice Hall International.

Javalgi, R.R. and Moberg, C.R. (1997). Service Loyalty: Implications for Service Providers. *Journal of Services Marketing*, *11*(3), 165-179.

Kapferer, J. (1992). *Strategic Brand Management: Creating and Sustaining Brand Equity Long Term* (2nd ed.). Dover, NH: Kogan Page,.

Kayaman, R. and Arasli, H. (2007). Customer Based Brand Equity: Evidence from the Hotel Industry. *Managing Service Quality, 17*(1), 92-109.

Keller, K.L. (2003). *Strategic Brand Management: Building, Measuring and Managing Brand Equity* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

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

Knox, S. and Bickerton, D. (2003). The Six Conventions of Corporate Branding. *European Journal of Marketing*, *37*(7/8), 998-1016.

Kotler, P. (2000). *Marketing Management: Analysis, Planning, Implementation and Control* (10th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Kuhn, K. A. L., Alpert, F. and Pope, N. K. L. (2008). An Application of Keller's Brand Equity Model in a B2B Context. *Qualitative Market Research: An International Journal*, *11*(1), 40-58.

Malhotra, N.K. (1999). *Marketing Research: An Applied Orientation* (3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.

McDonald, M., de Chernatony, L. and Harris, F. (2001). Corporate marketing and Service Brands – Moving beyond the Fast-Moving Consumer Goods Model. *European Journal of Marketing*, *35*(3/4), 335-346.

Nunnally, J.C. (1981). *Psychometric Theory*. New Delhi: Tata McGraw-Hill.

Odin, Y., Odin, N. and Valette-Florence, P. (2001). Conceptual and Operational Aspects of Brand Loyalty: An Empirical Investigation. *Journal of Business Research*, *53*(2), 75-84.

Oliver, R.L. (1997). *A Behavioral Perspective on the Consumer*. New York, NY: McGraw-Hill.

Simon, C.J. and Sullivan, M.W. (1993). The measurement and determinants of Brand Equity: A Financial Approach. *Marketing Science*, *12*(1), 28-53.

Pappu, R., Quester, P. G. and Cooksey, R. W. (2005). Consumer-Based Brand Equity: Improving the Measurement – Empirical Evidence. *Journal of Product & Brand Management*, *14*(3), 143–154.

Rio, A., Vazquez, R. and Iglesias, V. (2001). The Role of the Brand Name in Obtaining Differential Advantages. *Journal of Product & Brand Management, 10*(7), 452-465.

Rossiter, J.R. and Percy, L. (1987). *Advertising and Promotion Management*. New York, NY: McGraw-Hill.

Rundle-Thiele, S. and Bennett, R. (2001). A Brand for All Seasons? A Discussion of Brand Loyalty Approaches and their Applicability for Different Markets. *Journal of Product & Brand Management*, *10*(1), 25-37.

Srivastava, R.K. and Shocker, A.D. (1991). Brand Equity: A Prospective on its Meaning and Measurement. *Working Paper No. 91-124*, Cambridge, MA: Marketing Science Institute.

Yoo, B., Donthu, N. and Lee, S. (2000). An Examination of Selected Marketing Mix Elements and Brand Equity. *Journal of the Academy of Marketing Science, 28*(2), 195-211.

Yoo, B. and Donthu, N. (2001). Developing and Validating a Multidimensional Consumer-Based Brand Equity Scale. *Journal of Business Research*, *52*, 1-14.

Washburn, J.H. and Plank, R.E. (2002). Measuring Brand Equity: An Evaluation of a consumer-Based Brand Equity Scale. *Journal of Marketing Theory &Practice*, *10*(1), 46-61.

Zeithaml, V.A. (1988). Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence. *Journal of Marketing*, *52*(3), 2-22.

APPENDIX

Questionnaire

Brand association

Some characteristics of automobile X come to my mind quickly

I can quickly recall the logo or symbol of automobile X

I have difficulty in imagining automobile X in my mind

Brand awareness

I am aware of automobile X

I can recognize automobile X among competing automobile brands

I know what automobile X looks like

Perceived quality

Automobile X is of high quality

The likely quality of automobile X is extremely high

The likelihood that automobile X is reliable is very high

Automobile X must be of very good quality

Brand loyalty

I would not buy other brands, if automobile X is available at the automobile exhibitions

Automobile X would be my first choice

I consider myself to be loyal to automobile X

Automobile X is one of the preferred brands I want to buy

Purchase intention

I would buy automobile X rather than any other automobiles available.

I am willing to recommend others to buy this company's automobiles.

I am willing to purchase this company's automobiles in the future.

Demographic profiles

Please place your check mark in the most appropriate box.

1. Gender: ☐ Male   ☐ Female

2. Age group:

   ☐ 25 or under   ☐ 26-35   ☐ 36-45   ☐ 46-55   ☐ Above 55

3. Education:

   ☐ Below high school graduate   ☐ High school   ☐ 2 year college or associate's degree

   ☐ Bachelor's degree   ☐ Postgraduate

4. Monthly income:

   ☐ Under $200   ☐$200–$299   ☐ $300–$600   ☐Above $600