Do Multiple Time Consumers Also Observe Imperfectly? : The Case of Automobile Consumers in India

* *Tanmay Chattopadhyay*
** *Shraddha Shivani*
*** *Mahesh Krishnan*

INTRODUCTION

Consumer learning about quality of alternate brands of an experienced good may occur through several mechanisms. Increased attention has been focused on the nature of brand equity and on its role on improving market performance or financial success of products whose names influence the level of consumer acceptance (Aakar 1991). General observation on the importance of brand equity to marketing and financial results has also been discussed in the literature (Farquhar, 1989), Again, scattered empirical studies have answered such questions as impact of brand equity on the success of line and category extensions designed to trade on the cachet of a brand name (Aakar and Keller, 1990). The challenge of measuring brand equity lies in the fact that numerous alternative approaches exist (Chattopadhyay, Shivani and Krishnan, 2008) but all such methods appear to be inherently imperfect (Shocker, 1991). In this paper, we estimate a dynamic choice model in which consumers correlate brand quality through price signals**.**

In prior research on price quality relationship, researchers have concluded that the relation is product category specific (Lichtenstein and Burton, 1989, Morris B. Holbrook, 1991), and that it is affected by variables such as frequency of purchase, price levels and levels of consumer involvement. Lichtenstein and Burton, 1989, found that both objective and subjective quality – price relationships are stronger for non – durables but price – quality perceptions are also stronger for consumer durables. Rao and Monroe (1989) noted in their review paper on price and perceived quality relationship that a strong positive relationship exists for lower priced, frequently purchased product categories, but for higher priced, less frequently purchased categories, the relationship is not yet well documented.

Within channels of distribution, the value chain (Porter, 1985) is important as manufacturers and resellers seek to optimize value and achieve efficiencies. Resellers endeavor to maintain profitability in the face of consumer demand for better value through larger ranges, larger store formats and competitive pricing brands. The reality of retailing is that distribution takes place within a network of manufacturers, resellers and customers (Anderson, Håkansson, & Johanson, 1994). Normally, a reseller deals with many manufacturers and these manufacturers also supply a reseller's competitors (Holmström, 1997). Within the network, the brand can be regarded as a resource tie that links manufacturers and resellers together to serve the end customer (Ford, Gadde, Håkansson, Lundgren, Snehota, Turnbull & Wilson, 1998). Manufacturers and resellers have therefore adopted a more collaborative approach through initiatives such as category management, efficient consumer response (ECR) and trade marketing (Deloitte, 2002). However, for automobile industry and especially, the new car market in India, the scenario is different. More often than not, a reseller stocks different brands of a particular manufacturer only. This means that for new car market category in India, for the manufacturers, the brand loyalty is not so much a concern with respect to the resellers, but more consumers.Hence, manufacturers adopt approaches to increasingly influence the consumers so that their perceived quality, awareness and brand loyalty increases.

This paper investigates one approach to brand equity — specifically one based on the assessment of "price premiums" for multiple time buyers of automobiles in India. This work is also a partial carry forward of the limitation indicated by Yoo, Donthu and Lee (2000) in their work on athletic shoes, color television set and camera film, where they indicated that the effect interaction of different parameters that are impacted by marketing mix elements could be taken up for a different category in a different country to see the universality of their hypothesis. This paper also explores the hypothesis proposed by Swait and colleagues (1993) for a new product category. On the basis of information economics and market signaling theory, they suggested that a product of high brand equity signals high quality when the consumer imperfectly observes product attributes. It would indeed be interesting to note the price – brand equity correlation for consumers when they are multiple time buyers of a category, as multiple time usage of a product category would intuitively lead us to believe that the consumers have a much superior knowledge of the product category than first time users.

The challenges faced by car marketers in India are very unique in nature. India's car population on the roads is projected to grow at a CAGR of 13% for the period 2008 – 2013 (India : Forecast and Analysis – Global Insight, Sep. 2007) and

* Marketing Manager, Amararaja Batteries Ltd., Hyderabad & Doctoral Student, Department of Management, Birla Institute of Technology, Mesra
E – Mail: tanmaychat@gmail.com

** Associate Professor, Department of Management, Birla Institute of Technology, Mesra, Ranchi – 835215, Jharkhand
Email – shraddhashivani@bitmesra.ac.in, shraddha_shivani@yahoo.com

*** Sales and Marketing Director, Goodyear India Ltd., Faridabad, Haryana E-mail: Mahesh_krishnan@goodyear.com

penetration of cars per thousand household is also projected to rise from 82.3 in 2008 – 2009 to 116.8 in 2012 – 2013 (NCEAR report, August 2007). It has been seen that a lot of car users are now going for a second car either for themselves or for their family, in India. In fact, it is estimated that multiple time car buyers (people who have bought a car more than once), constitute 63% of total car population (J.D. Power report, 2006). The % of multiple times car users in cities is even higher to 70% (Economic Times, June 2006). This phenomenon might not be very difficult to imagine especially since there has been a nine times growth in the population of "rich" in the period 1995 – 1996 to 2007- 2008 (rich is defined by NCEAR as households whose per month take home income is INR 1,80,000 or more (USD 4800)). It would indeed be interesting to study the brand equity perceptions of such car owners (people who have bought at least a second car) as the dynamics of their brand choice is expected to be different from that of the first car buyers.

PROBLEMS OF DEFINITION AND MEASUREMENT

Numerous definition of brand equity has been proposed by different authors. According to David Aakar (1991), brand equity is the set of assets and liabilities linked to a brand that add to or subtract from its value to the consumers and business. While Farquhar (1989) defines brand equity as the monetary value added by the brand to the product, Swait et al (1993) define brand equity as the consumer's implicit valuation of the brand in a market with differentiated brands relative to a market with no brand differentiation, whilst Srinivasan, Chan Su Park and Dae Ryun Chang defines brand equity as the incremental contribution (in $) per year obtained by the brand in comparison to the underlying product or service with no brand building efforts (March 2005). This incremental contribution is driven by the individual customer's incremental choice probability for the brand in comparison to his or her choice probability for the product with no brand building efforts. From a behavioral view point, brand equity is critically important to make points of differentiation leading to competitive advantages based on non price competition (Aakar, 1991). However, for our work, brand equity may conceptually be defined as *the financial impact associated with an increase in product's value accounted for by its brand name above and beyond the level justified by its perceived quality by the end user (as justified by its configuration of brand attributes, product features or physical characteristics).* This conception vibes closely with the emphasis on "added value" proposed by Farquhar. However, brand equity has proven to be rather an elusive phenomenon in need for measurement in this category. First, one encounters the problem of defining and determining quality or other aspects of attribute based product valuations. The use of a uni- dimensional scale for this purpose has been defended in practice (Curry and Faulds, 1986). In this light, the proposed research explores a uni- dimensional measure of quality.

Second, one faces the difficulty of assessing the increase in a product's value accounted for by its brand name in the sense that one cannot unambiguously interpret published prices in industries where discounts and special deals (in the form of exchange offers and price promotions) are pretty common especially during the year end, or, conversely, where image oriented pricing prevails. In particular, by focusing on selling prices, we neglect aspects of brand strategies (e.g. competitive short run price cutting tactics or prestige enhancing price leadership) that may cause these prices to depart from the so called consumer value (i.e. the price consumers are willing to pay for that brand). In other words, market prices are simultaneously determined by both the producer and consumer, so that selling prices offer, at best, a crude index of market value. This difficulty might lead to erroneous conclusions. For example, despite the wide spread belief that quality bolsters price, Kamakura, Ratchford and Agarwal, 1988, report average price – quality correlation that imply an explained variance of only 0.05.

Third, price is not the only determinant of equity. Frequent price promotions, (also known as deals), (Aakar 1991), advertising (Erdem, Keane and Sun, 2005) and extent of distribution and dealer service (Verhoef, Langarek and Donkers, 2004) have also been seen to affect brand equity at various times. But to our knowledge, there has been no work signaling price as a determinant of brand equity for multiple time consumer durable buyers in general and multiple time car buyers in India in particular.

RESEARCH HYPOTHESIS

The main purpose of our study is to investigate the relationship between one of the marketing mix elements, viz. pricing and brand equity. On the basis of marketing literature, we hypothesize directional relationship amongst marketing efforts, the dimensions of brand equity and brand loyalty. In line with the work of V. Srinivas, Chan Su Park and Dye Ryun Chung (March 2005), pricing is thought to positively impact brand equity.

BRAND EQUITY AND ITS DIMENSIONS

According to Aakar (1991), brand equity is a multidimensional concept. It consists of brand loyalty, brand awareness, perceived quality, brand associations and other proprietary brand assets. Other researchers also propose similar dimensions. Shocker and Weitz (1988) propose brand oyalty and brand associations, while Keller (1993) suggests brand knowledge, comprising brand awareness and brand image.

Perceived quality has been defined by Zeithamal (1988) as consumer's subjective judgment about a product's overall excellence or superiority. Brand loyalty, as defined by Oliver (1997), is a deeply held commitment to rebuy a preferred

product or service consistently in the future. Grover and Srinivasan, (1992) found out that loyal customers show more favorable response to a brand than non loyal customers. Aakar (1991) has defined brand association as anything linked in the memory of the consumers to a brand, while Chandon (2003) has defined brand awareness as accessibility of the brand in the customer's memory.

Brand awareness along with strong brand association forms a strong brand image. 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 (Aakar, 1991). Brand associations, which result in high brand awareness, are positively related to brand equity as they can be a signal of quality and commitment and help buyer consider the brand at the point of purchase, leading to favorable behavior of brand.

CUSTOMER BASED BRAND EQUITY

According to this model, building a strong brand basically involves four steps: 1) Establishing proper brand identity, i.e. establishing the breadth and depth of brand awareness; 2) Creating appropriate brand meaning through strong, favorable and unique brand associations; 3) eliciting positive, accessible brand responses, and 4) forging brand relationship with customers that are characterized by intense active loyalty. Achieving these four steps, in turn, involves establishing six brand building blocks – brand salience, brand performance, brand imagery, brand judgments, brand feelings and brand resonance (Keller, 1993).

Cobb - Walgren were the pioneering researchers to measure consumer based brand equity on the conceptualization of Aakar (1991) and Keller (1993). These researchers treated consumer based brand equity as asset of four dimensions, viz. brand awareness, brand associations, perceived quality and brand loyalty.

C.B.B.E. has also found support through the works of several researchers. "(t)here is value to the investor, the manufacturer and retailer only if there is value to the consumer." (Cobb Walgren et al, 1995, p. 26). Michael Leisure (2003) in his work stated that the measure of customer loyalty has a distinct tie to financial performance, in that, loyal customers make repeat purchases of the brand of their choice over the lifetime of their relationship with them. The ability of maintaining loyalty translates to higher future profit per customers. The loyal customers coming back again and again actually drives the market share up for any company over a period of time.

Given that Customer Based Brand Equity (C.B.B.E.) is one of the most important methods for measuring brand equity, we shall focus our efforts to measure brand equity by this method.

PRICE AND BRAND EQUITY

Consumers use price as an important extrinsic cue and indicator of product quality and benefit. High priced brands are often perceived to be of higher quality and less susceptible to price cuts than lower priced brands (Blattberg and Winniewski, 1989, Kamakura and Ruseel, 1993). Thus, price is related positively to perceived quality. Rao and Monroe (1989) have shown that a positive relationship between price and perceived quality has been supported through previous research. By increasing perceived quality, price positively relates to brand equity.

Hypothesis: 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 other dimensions of brand equity, brand loyalty and brand associations. Although price implies high quality, it does not create loyalty to the brand per se. Neither loyal nor disloyal consumers would use price as an evaluative criteria for the brand per se and are not influenced by price consideration. (Helen and Schmittlein, 1994). Brand loyal consumers would be willing to pay the full price of the brand of their choice as they are less price sensitive than brand non loyal consumers. Thus, changing price level alone does not affect brand loyalty. Again as per Yoo, Donthu and Lee (2000), there is no directional relationship between pricing and brand association as both low and high prices can be equally strongly linked to the brand in memory for the benefits that each bring to consumers. A low priced product gives transaction utility, while a higher priced product gives acquisition utility. Either a low priced or a high priced strategy would help a consumer be equally aware of the product.

METHOD

On the basis of items used in the literature and exploratory research undertaken by us, we identified factors that can be perceived by consumers to be impacted by price. We then generated a pool of sample measures. All items were measured on a 5 point Likert scale, with anchors of 1 = strongly disagree and 5 strongly agree.

PRICE AS A MARKETING MIX ELEMENT

We examine the perceived as against the actual marketing mix elements for two reasons — first it was not feasible to control the actual pricing efforts in the study. Second, perceived pricing efforts play a more direct role in consumer psychology than actual pricing efforts. Actual pricing actions cannot change consumer behavior unless consumers perceive them to exist. Objective or actual price has been conceptualized differently by consumers from perceived price; actual price has

been encoded by consumers to be "expensive" or "cheap" (Olson, 1977). Consumers are not likely to remember actual prices, even at the point of purchase (Dickson and Sawyer, 1990).

DATA COLLECTION AND CLASSIFICATION OF BRAND TYPE

In line with the work by Desarbo and Manrai 1992; Edmonson 2003and Kirmani, Sood, and Bridges 1999; Park, Milberg and Lawson 1991, we distinguish between three brand types for automobiles: prestige brands, volume brands and price or economy and correlate it to the Indian market scenario. Accordingly, we define prestige brands as brands which are priced greater than Rs. 9 lakhs , Volume brands are brands that are priced between Rs. 5 lakh – 9 lakh while economy brands are those that are priced less equal to than Rs. 5 lakhs. All the prices being considered are ex-showroom, New Delhi as on March 2008. This method of differentiation finds merit as the Society of Indian Automobile Association (SIAM) classifies passenger vehicle types along the same lines. The magazine "Auto car" publishes the prices of all automobile models. Its March 2008 issue is being used as reference in all our data generation.

Prestige brands such as Mercedes and BMW confer a high status symbol to the user. These brands usually have a relatively small market share. Volume brands are usually priced near the market average and have relatively high market shares. Finally, economy brands, are sold in the low-end segment of the market.

A check on secondary data published by Global Insight on 7th Sept., 2007 in their report "India: Forecast and Analysis" shows that the following is the sales mix (actual and expected) through the years 2004 till 2011 for passenger cars in India. The figures for the same are shown in Table 1.

Table 1 : Expected passenger car sales in India : 2004 – 2011

Type of car	Price band	2004	2005	2006	2007	2011
Economy brand	< 5 lakh	683	716	791	867	1653
Volume brand	5 – 9 lakh	87	106	155	182	294
Prestige brand	**> 9 lakh**	**34**	**33**	**42**	**57**	**116**

From this figure, we see that in 2011, over two million (>2 MN) of new passenger cars are expected to be sold in India.

That is 80% of cars sold in India in 2011 are projected to be of economy range, 14% of volume range and 6% prestige range. Accordingly, we planned our sample wherein 80% of our sample size would be people whose last but one car was of an economy range, 14% of volume range and 6% of prestige range.

As per the department of transport ministry, following states have the 10 largest populations of passenger car vehicles excluding taxi segment in India as in 2004. Being the last published report from the ministry of transport, we shall take this report into consideration. These figures are shown in Table 2.

All data in '000 units

Table 2 : Total passenger car population in the top 10 states in India

Maharashtra	493142
Tamil Nadu	154192
Gujarat	276908
Andhra Pradesh	263325
Delhi	233212
Karnataka	190362
Rajasthan	64580
West Bengal	78067
Punjab	36383
U.P.	34488

These states represent 78% of the total vehicle population in India in 2004 and are hence fairly robust in our bid to have good survey data.

To find out the parameters that are impacted by pricing, we did an exploratory research on a sample of 22 consumers across India. They were skewed as 2 prestige brands, 3 volume brands and 15 economy brands. Of the 22 respondents, 2 were industrialists, 3 were in the senior management cadre in industry, 4 were in the middle management grade while 2 were in the junior management level, 2 people were academicians, 5 people were having their own business, while 4 people were business consultants of various firms.

Sampling was done based on convenience. After a pretest (N = 24) to assess and purify the measures, we conducted a main survey test to test the hypothesis. A total of 643 consumers were contacted out of which 424 were willing to participate. To

be eligible for participation in the study, consumers had to meet three criteria. First they should have bought more than one car, second their last car purchased should be within the last six months and third the samples had to be stratified in line with the vehicle population — both in terms of numbers as well as in terms of numbers per strata (premium, volume and economy). This reduced the number of sample size to 310, as per the following state wise and vehicle wise skew. Consumers were stratified on the basis of the last vehicle they purchased.

Hence the targeted samples to be interviewed were as shown in Table 3.
Insert table 3 about here.

Table 3 : No. of consumers targeted for interview

Place	No. of interviews targetted			
	Total	Premium	Volume	Economy
Maharashtra	84	5	13	66
Tamil Nadu	27	2	4	21
Andhra Pradesh	44	3	5	36
Gujarat	46	3	6	37
Delhi	41	2	7	32
Karnataka	32	2	4	26
Rajasthan	11	1	2	8
West Bengal	13	1	2	10
Punjab	6	0	1	5
U.P.	6	0	1	5
TOTAL	310	19	45	246

These 310 consumers were then interviewed by phone using a standardized questionnaire. This resulted in a usable sample size of 303 respondents (7 incomplete responses were excluded from the analysis). A routine check for respondent bias indicated no significant difference existed in the mean responses across respondents on any construct with different socio – demographic characteristics (i.e. gender, age and education). At the beginning of the questionnaire, each of the respondents were explained the purpose and emphasized that "there were no right or wrong answers, your opinions matter" to minimize possible response bias. Also, at the beginning of the study, 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."

RESULTS

Throughout the entire analysis process, the individual brands surveyed were ignored. Rather the stratum each brand fell into was considered. The main goal of this study was to identify the relationships amongst the pricing construct and brand equity as perceived by the consumers.

FINDINGS

FROM EXPLORATORY RESEARCH

From the exploratory research, we found that the following were the factors that were being impacted by price :
● Sturdiness.
● Image.
● Status.
● Maintenance
● Mileage
● Made with superior technology
● Number of dealers
● Driving experience
● Advertisement frequency

These factors were then measured on a 5 point Likert scale, with anchors of 1 = strongly disagree and 5 strongly agree for the 303 samples pan India. The result from the questionnaire was then subjected to a principal component analysis to find which of these variables are related to one another. The method identifies combinations of factors that are correlated with

each other, but the combinations – called principle components – are not correlated with one another. The potential benefit of doing this is to reduce the number factors that must be considered.

From the eigen analysis, we get the table 4. This table shows the correlation matrix of all the different factors with which the samples were analyzed.

<p align="center">Table 4 : Eigen analysis of the Correlation Matrix</p>

Eigenvalue	2.2118	1.8609	1.0510	0.9257	0.7187	0.6673	0.5959	0.5447
Proportion	0.246	0.207	0.107	0.103	0.080	0.074	0.066	0.061
Cumulative	0.246	0.463	0.569	0.672	0.752	0.826	0.892	0.953
Eigenvalue	0.4241							
Proportion	0.047							
Cumulative	1.000							

From the table we see that the first two interactions account for about 46% of the total effect.

To find out the influence of each of the variables of the principal component, we study the Table 5.

<p align="center">Table 5 : Influence of each of the variables in the Principal component</p>

Variable	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9
Higher price, sturdier the car	-0.049	0.481	0.220	0.329	-0.503	-0.561	-0.005	0.178	0.102
Higher price, better image	0.386	0.086	0.552	0.243	0.201	0.081	-0.515	-0.402	-0.077
Higher price, status symbol	0.443	0.157	0.320	0.133	0.335	0.147	0.539	0.484	-0.003
Higher price, less maintenance	0.162	0.529	-0.392	-0.038	0.184	0.220	-0.229	0.015	0.636
Higher price, better mileage	0.138	0.565	-0.311	-0.122	0.055	0.016	0.155	-0.289	-0.663
Higher price, superior technology	-0.415	0.261	0.253	-0.308	0.157	0.167	-0.440	0.541	-0.248
Higher price, wide spread dealer	0.417	-0.028	0.089	-0.377	-0.702	0.412	-0.059	0.099	-0.014
Better driving experience	-0.342	0.242	0.471	-0.434	0.019	0.062	0.393	-0.425	0.274
Higher price, more advertisement	0.380	-0.105	-0.023	-0.611	0.200	-0.638	-0.127	0.066	0.056

The interpretation of the meaning of the top two principle components from Table 5 are:

● Principal Component 1: Image/Status

● Principal Component 2: Sturdiness/Mileage/Maintenance

To find out if individually each of these variables has an impact on perceived quality and hence brand equity, we do an ordinal logistic regression of each of these variables against the car types. The results of the same are shown in tables 6.

From the tables 6, we see that the following factors have a p – value less than 0.05 and are hence statistically significant.

– Higher priced cars give better sturdiness.

– Higher priced cars confer better status in the society.

Hence these factors are considered to be the factors driving perceived quality and hence brand equity for multiple time passenger car buyers in India.

SUMMARIZATION OF FINDINGS

As discussed earlier, we had studied the factors affecting brand equity for multiple buyers of passenger cars in India. This is indeed a very interesting study. On one hand, reports show that most of India's automobile growth is driven by consumers who are multiple time car buyers. On the other hand, multiple time car buyers are not expected to be influenced by factors which influence the first time buyers as they are expected to be better aware of the features of the category in question.

The brand assets expressed as the dimensions of brand equity are related to brand equity, i.e. the brand assets of the customer's holistic perception of the extra value due to the brand name. 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 extension (Aakar, 1997).

Our study shows that pricing plays its part in determining brand equity for multiple car buyers through perceived quality. The factors that singly influence brand equity and pricing relationship are sturdiness of the car and status conferred to the society. We term these factors as *primary cues affecting brand equity – pricing relationship* .

However, several more factors interact to influence the relationship of pricing and brand equity. These factors are image, mileage offered by the brand, maintenance cost involved with the brand. We term these factors as *secondary cues affecting*

Table 6 : Ordinal logistic regression of car type vs image, status in the society, quality, mileage and maintenance

Higher priced car means sturdier car :			
Method	Chi-Square	DF	P
Pearson	**18.0555**	**7**	**0.012**
Higher priced cars confer better image :			
Method	Chi-Square	DF	P
Pearson	**2.14478**	**5**	**0.829**
Higher priced cars confer better status :			
Method	Chi-Square	DF	P
Pearson	**19.1769**	**7**	**0.008**
Higher priced cars require less maintenance :			
Method	Chi-Square	DF	P
Pearson	**7.28236**	**7**	**0.400**
Higher priced cars are made with superior technology :			
Method	Chi-Square	DF	P
Pearson	**3.02979**	**7**	**0.882**

brand equity. These factors, by themselves do not have any effect on brand equity, but in conjunction with primary factors, they influence the brand equity.

DISCUSSION

Our study indicates that higher priced cars give a better brand equity of the product as they are perceived to confer better sturdiness and also better status in the society. This result of ours is significantly different from the one reported by Morris Holbrook (1991) in his study for consumer durables in Netherland, wherein it was found that higher price only indicated better perceived quality for consumers.

This work is also a partial carry forward of the limitation indicated by Yoo, Donthu and Lee (2000) in their work on athletic shoes, color television set and camera film, in the fact that this work indicated the effect interaction of different parameters that are impacted by pricing. As a result, though by themselves, only two factors are contributing significantly, viz., higher priced cars are more sturdy and higher priced cars confer better status to the society, while higher price indicates better image, better maintenance and better mileage are significant during interaction.

The results are also a bit surprising, as the category we have investigated for are multiple buyers of passenger cars. If past value to consumers, (as indicated in several marketing literatures, Yoo, Donthu and Lee, 2000), affect brand loyalty, thereby leading to higher brand equity, then for such samples, pricing should not have played such a major role in determining brand equity. On the basis of information economics and market signaling theory, Swait and colleagues (1993) suggested that a product of high brand equity signals high quality when the consumer imperfectly observes product attributes. The positive signals bring value for the consumer, as Aakar (1991) proposes. If the above theories are true, then we need to say that even after multiple purchase and usage of a product category (in this case passenger cars), consumers are still not clear of the product attributes. Alternately, if we assume, that with more and more usage, consumers become educated in a product category, (which should happen as all of the samples interviewed had purchased more than one passenger car and a few samples had purchased up to eight passenger cars) then the hypothesis of Swait et al. (1993) is challenged. To a manufacturer, it means opportunity to charge a premium as even repeat consumer also sees higher priced product as indicative of better quality.

LIMITATIONS AND FUTURE RESEARCH

Our study is limited by several factors that can be addressed in future research. First, our sample is limited geographically. Our hypothesis should be tested further in other countries to get a universal data.

Again, some of the data we collected, were after repurchase had been made. So the respondents might be biased towards the actual decision. Ideally, all the data gathered should have been on consumer's perception and hence should have been prospective. However, as we interviewed consumers shortly after their repurchase, this bias should not be too problematic (Punj and Brookes, 2002).

Third, we have collected cross sectional data. Future research could collect longitudinal perceptual data and longitudinal switching data.

Fourth, we did not include the other marketing mix variables in our study. It would indeed be interesting to see if brand equity is affected singly or with a combination of factors like advertisement, dealer proximity, dealer service, consumer promotional gifts etc. in addition to price. Also, in countries like India, though automobile dealers are exclusive to the mother brand, they often sell sub-brands of the mother brand. Thus, a Hyundai dealer would sell models like Santro, i10 (in

the economy range), they would also sell sub-brands like Verna (in the volume brand) and Sonata (in the premium brand). However, dealer for a brand like Mercedes would sell only in the premium range. Hence, another important question that could be answered is whether brand equity is affected by dealer exclusivity for type of brand, premium, volume or economy. Again, we use perceptual, not actual, measures of pricing. It would be meaningful from a managerial perspective to use hard marketing data from secondary sources, such as published survey reports. Perceived pricing efforts may create illusive reflections on brand equity, distinct from the actual pricing efforts. Hence, we call on future research to examine the effects of actual pricing on brand equity.

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