

Comparing Brand Equity of Petroleum Brands among Customers & Evaluating Customer Expectations from Petro Retail Outlets

Summer Internship Report submitted to University of Petroleum & Energy Studies for the partial fulfillment of degree of Integrated BBA (Oil & Gas Marketing) + MBA (Oil & Gas Management)



UNIVERSITY OF PETROLEUM
& ENERGY STUDIES

REFERENCE COPY

Market Research Report also submitted to Hindustan Petroleum Corporation Limited, Vashi Regional Office, Navi Mumbai on completion of Summer Internship from 21st May, 2013 – 19th July, 2013.



Mentored By

Mr. C.M. Dharmik
Chief Regional Manager
Vashi Regional Office,
D-500, T.T.C Industrial Area,
Post Box No. 2,
Vashi, Navi Mumbai – 400 705.

Mr. Prem Singh
Area Sales Manager – Raigad

Mr. Ashok Jadhav
Area Sales Manager – Thane

Author

Anupam Prashant Mujumdar
Post graduate student,
Master of Business Administration (Oil & Gas Management)
University of Petroleum & Energy Studies, Dehradun
College of Management & Economic Studies

Roll No. – R430209009
SAP ID - 500007583
Email: anupam.mujumdar@gmail.com
July 2013



हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड

(भारत सरकार उपक्रम) रजिस्टर्ड ऑफिस : 17 जमशेदजी टाटा रोड, मुंबई-400 020

HINDUSTAN PETROLEUM CORPORATION LIMITED

(A GOVERNMENT OF INDIA ENTERPRISE) REGISTERED OFFICE : 17, JAMSHEDJI TATA ROAD, MUMBAI - 400 020.

वाशी क्षेत्रीय कार्यालय, डी-500, टी.टी.सी. इंडस्ट्रीयल एरिया, वाशी, नवी मुंबई - 400 705.

Vashi Regional Office, D-500 T.T.C. Ind. Area, Vashi, Navi Mumbai - 400 705.

दूरध्वनी/ Telephone : 2762 0231 / 2762 0223 / 2787 1464 / 2762 0229 / 2762 0212 फॅक्स/ Fax : 2762 0232

REF: VRO/CMD/PROJECT-2013

July 19, 2013.

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Shri Anupam Prashant Mujumdar** student from University of Petroleum & Energy Studies, Dehradun was engaged as Project Trainee at our Vashi Retail Regional Office, with effect from **21/05/13 to 19/07/13**. He has successfully completed the project “ **Comparing Brand Equity of Petroleum Brands among customers & evaluating Customer Expectations from Petro Retail Outlets** ”.

During his assignment with us, his initiative at assigned project work and his conduct was found to be good.

We wish him success in all his future endeavour.

C M DHARMIK
CHIEF REGIONAL MANAGER

Acknowledgement

I would sincerely like to forward my gratitude to **Mr. C.M. Dharmik** (Chief Regional Manager, Vashi Regional Office), for his guidance and cooperation and allowing me to carry out this project which has been successfully completed. Also his guidance and help has helped me to learn many new things during my internship which would be carried by me for my whole life.

I also thank **Mr. Prem Singh** (Area Sales Officer, Raigad) for guidance and help extended in the conduct of this project on time, who was also the source of inspiration.

I would also like to acknowledge my friends Rajat Bharti & Dheeraj Patidar as with their cooperation and support and team work, I was able to learn and gain knowledge.

My humble gratitude to University of Petroleum and Energy Studies for giving me this wonderful opportunity to pursue my internship at HPCL.

Last but not least I wish to avail myself of this opportunity, express a sense of gratitude and love to my friends and my beloved parents for their mental support, strength, and help.

Abstract

The objective of this study is to compare the brand equity of the 3 Public Sector Petroleum Brands, i.e., IOCL, BPCL & HPCL among customers and evaluate the customer expectations from petro retail outlets (City, Highway and Rural) in Thane, Vashi, Raigad and Nashik. Questionnaire was the instrument used for data collection via Internet. There were 400 respondents. Both descriptive and inferential statistics at significance level of $\alpha=0.05$ were used for analysis.

Most of the respondents were male, age between 21-35 years old, with Graduate degree, work for a private company, income between INR 20,000 – INR 40,000 per month.

From research findings, BPCL has the highest brand equity, followed by HPCL and IOCL respectively. For perceived quality, market perception, brand association and brand loyalty perspectives, HPCL had the highest score, followed by BPCL and IOCL respectively. However, for brand awareness perspective, BPCL had the highest score, followed by HPCL and IOCL respectively.

The attitudes of the customers towards perceived quality among the three petroleum brands were different. Attitudes toward brand association and market perception were indifferent between IOCL, BPCL and HPCL customers. For brand loyalty, the attitudes of IOCL, BPCL and HPCL customers were different.

The factors which influenced customers most in petro retail outlet preference/selection decision making are Dealer's Goodwill, Behavior/Service of Pump Attendants, Petroleum Company Brand, Deals – Discounts & Loyalty Programs, Perceived Quality & Quantity of Fuel Dispensed, Non-Fuel Facilities Provided at Retail Outlet and Trust respectively in that order.

Keywords: Brand, Brand Equity, IOCL, BPCL, HPCL, Petroleum Brands, Customer Expectations from Petro Retail Outlets, Brand Awareness, Brand Loyalty, Market Perception of Brands, Brand Association.

Table of Contents

Title	Page Number
1. Acknowledgement	i
2. Abstract	ii
3. List of Tables	iii
4. List of Figures	iv
5. Introduction	1
6. Literature Review	3
7. Objectives	4
8. Hypothesis Testing	5
9. Research Methodology	6
(i) Sample Size	
(ii) Sampling Technique	
(iii) Research Design	
(iv) Data collection method	
(v) Design of Questionnaire	
10. Data Analysis	7
(i) Demographic Data	
(ii) Measuring Brand Equity	11
(a) Brand awareness	12
(b) Perceived quality	15
(c) Brand association	16
(d) Market Perception	17
(e) Brand Loyalty	18
(iii) Evaluating Customer Expectations from Petro Retail Outlets	19
11. Findings	23
12. Conclusion & Suggestions	24
13. Bibliography	25
14. Appendix	26
(i) Format of Questionnaire	

List of Tables

	<i>Page No.</i>
Table 1: Points for Brand Equity of each brand The Test Result on the Difference of Brand Equity in Each Aspect	<i>11.</i>
Table 2a: Frequency and Percentage for the Ranking of Brand Awareness According to Region & Category of Outlet	<i>12 - 14.</i>
Table 2b: Overall Summary of Region wise Brand Awareness	<i>14.</i>
Table 2c: Overall Summary of Ranking of Brand Awareness	<i>14.</i>
Table 3: Comparison of the Average point on Perceived Quality	<i>15</i>
Table 4: Comparison of the Average Point for Brand Association	<i>16.</i>
Table 5: Measuring Market Perception of the 3 Brands	<i>17</i>
Table 6: Comparison of the Average Point for Brand Loyalty	<i>18</i>
Table 7: Factors which influence Respondents in their Retail Outlet Preference/Selection Decision Making	<i>19</i>
Table 8: One Factor Repeated Measures ANOVA Analysis	<i>21.</i>
Table 9: The Tukey Pairwise Comparison Test	<i>22.</i>

List of Figures

Page No.

Figure 1: Gender Distribution of Sample

7

Figure 2: Age Group Distribution of sample

8

Figure 3: Education Background Distribution of Sample

9

Figure 4: Profession Distribution of sample

9

Figure 5: Income (per month) distribution of sample

10.

Introduction

A successful brand is an identifiable product, service, person or place, augmented in such a way that the buyer or user perceives relevant, unique added values which match their needs most closely (Christodoulides & Chernatony, 2010). A brand signals to the customer the source of the product, and protects both the customer and the producer from competitors who would attempt to provide products that appear to be identical (Aaker, 1991). Advocates of brand equity contend that for a brand to have value, it must be valued by the customer. If the brand has no meaning to the customer, none of the other definitions of brand is meaningful (Cobb-Walgren et al., 1995; Keller, 2000).

The oil industry influences almost all aspects of business, economics and geopolitics throughout the world. India's oil market has so far been dominated by state firms such as the Indian Oil Corporation Ltd. (IOCL), Bharat Petroleum Corporation Ltd. (BPCL) and Hindustan Petroleum Corporation Ltd. (HPCL), especially in the marketing of petroleum products. These represent pretty strong brands amongst themselves, but one particular customer behavior that has intrigued the marketers and researchers for long has been the indifference exhibited by fuel consumers while making choice amongst these three brands to refuel their vehicles (Attri, Pahwa & Urkude, 2011a).

With the rise in the disposable income of the Indian consumers and the ever increasing population of vehicles in the country there is going to be a huge increase in the demand for Auto fuels (SIAM-Society of Indian Automobile manufacturers, 2010).

Each of the Public Sector Oil Marketing Company (OMC) claims in their literature that all their activities are focused towards exhibiting certain brand values for which they are known or aspire to be known in the market place. For example HPCL claims to be known for High Quality, Personalised Vehicle care and Personalised Customer care; BPCL for Innovation, Care and Reliability (abbreviated in company literature as InCaRe); and IOCL for Care, Innovation, Passion and Trust (abbreviated in company literature as CIPT). Despite these efforts there is a very low level of brand awareness and loyalty exhibited by the customers (Attri, Pahwa & Urkude, 2011b, 2011c) which indicates that the level of association of the customers with these oil marketing companies might not be as strong as expected by the companies so that they can enjoy highest degree of brand loyalty exhibited by the customers. Since all brand decisions rely on in-depth understanding of customer to create a point of differentiation for sustainability over time, this research is carried out aiming to study the association level of the customer with the brand propositions/ values for the public sector oil marketing companies in Thane, Vashi, Raigad and Nashik in Maharashtra, India. The results from this study

would provide market insight to the OMCs regarding their current brand association level amongst the customers.

Literature Review

Brand is a fundamental concept originated from the fact that manufacturers needed to create one in order to show ownership and differentiation in their products (Keller, 1998). Also, it was easy for consumers to remember (Farquhar, 1990), since having a brand is creating something tangible (Kotler, 2000), for example, name, term, sign, symbol, and design, as well as other intangible values (Wood, 2000), such as product image and status reflection on product users.

Ambler (1997) (Wood, 2000) has defined brand, from consumers' perspective, that it was like a promise from the sellers to consumers on the expectation and satisfaction on product attributes. The attributes of the brand could be real and tangible or they could be emotional and intangible. Blackston (1992) stated that brand was the awareness or perception of consumers toward a particular product, regardless of the physical product itself. This discrepancy caused the consumers to be willing to pay as well as evaluate the products and remember the evaluation easier.

Brand is a long term asset, longer than patents or copyrights, which had limited validity period. With thorough planning and management, the brand could always stay valuable and answer to consumer needs, consequently allowing it to remain in the market for good (Kotler, 2000).

Several researchers and marketing experts (Farquhar, 1990; Aaker, 1991; Keller, 1998) defined brand equities in many different ways. It can be concluded that brand equity is the added value to any particular products, exceeding the actual value of the physical product. It is one of the factors causing consumers to be aware, satisfied, fond of, and confident in the product. It also motivates consumers to be willing to pay higher price for a product, which leads to higher sales revenue and profit for the brand owners, rather than selling no name products.

Aaker (1991) mentioned that the analysis of brand equity from the consumer's perspective can help consumers to easily interpret, process, and store information about the products and brands. Brand equity affected the confidence of the consumers when making a decision to buy the products. Thus the framework in this research involves the 4 components through which marketers can develop their brand equity: Brand Awareness, Perceived Quality, Brand Associations, and Brand Loyalty.

Objectives

1. To study the association level of the customer with the brand propositions/ values for the three public sector oil marketing companies IOCL, BPCL and HPCL in Thane, Vashi, Raigad and Nashik in Maharashtra, India.
2. To evaluate customer expectations from Petro Retail Outlets.

Hypothesis Testing

Hypothesis used to test the comparison of the brand equity for each brand can be concluded as follows:

Hypothesis 1:

H_0 : Customers were aware of the indifference among the 3 petroleum brands.

H_a : Customers were aware of the difference among the 3 petroleum brands.

Hypothesis 2:

H_0 : Different brands did not received different scores regarding brand equity, in terms of perceived quality.

H_a : Different brands received different scores regarding brand equity, in terms of perceived quality.

Hypothesis 3:

H_0 : Different brands did not received different scores regarding brand equity, in terms of brand association.

H_a : Different brands received different scores regarding brand equity, in terms of brand association

Hypothesis 4:

H_0 : Different brands did not received different scores regarding brand equity, in terms of brand loyalty.

H_a : Different brands received different scores regarding brand equity, in terms of brand loyalty.

Research Methodology

This research was the survey research using questionnaire as a tool to collect the data from 400 petro customers. This was conducted with self-questionnaire method, where respondents voluntarily completed the questionnaire over a website. The data was collected during 21st May, 2013 to 19th July, 2013. The questionnaire was divided into 4 sections. The first section involved demographic data, while the next section involved brand equity data of petroleum brands. The details of the second section consisted of: brand awareness, perceived quality, brand associations, market perception and brand loyalty. Brand awareness was measured by asking the respondents to rank 3 brands they had in mind. On the other hand, perceived quality, brand associations, and brand loyalty were measured by asking the respondents to rank their preference in regard to each brand (Likert Scale); 5 for Highest, 4 for High, 3 for Medium, 2 for Low, and 1 for Lowest. The third section of the questionnaire involved the preference toward each brand and the attributes that the respondents thought of in each brand. The fourth section involved the factors which influenced customers in their retail outlet preference/selection decision making.

Sample Size: 400

Sampling Technique: Stratified Independent Random Sampling

Descriptive statistics was used for analysis, e.g. percentage, mean, and standard deviation. Inferential Statistics were also used, which involved the Test of Homogeneity and One-way Repeated-measures ANOVA, at 0.05 level of significance. If the test results were significantly different, the test would be done in pairs to determine the difference between each pair. The method used was the Tukey Pairwise Comparison Test (Post-Anova Analysis).

Data Analysis – Research Results

The result from the research which represented the brand equity of petroleum brands was divided into 4 parts as followed:

- Demographic Data of the samples
- Measuring Brand Equity
- Measuring Preference toward the brands and product attributes
- Evaluating Factors which influence customers in their petro retail outlet preference/selection decision making.
- Hypothesis Testing

Demographic data

There were 400 respondents involved in the research, of which 71% were male and 29% were female.

Figure 1: Gender Distribution of Sample

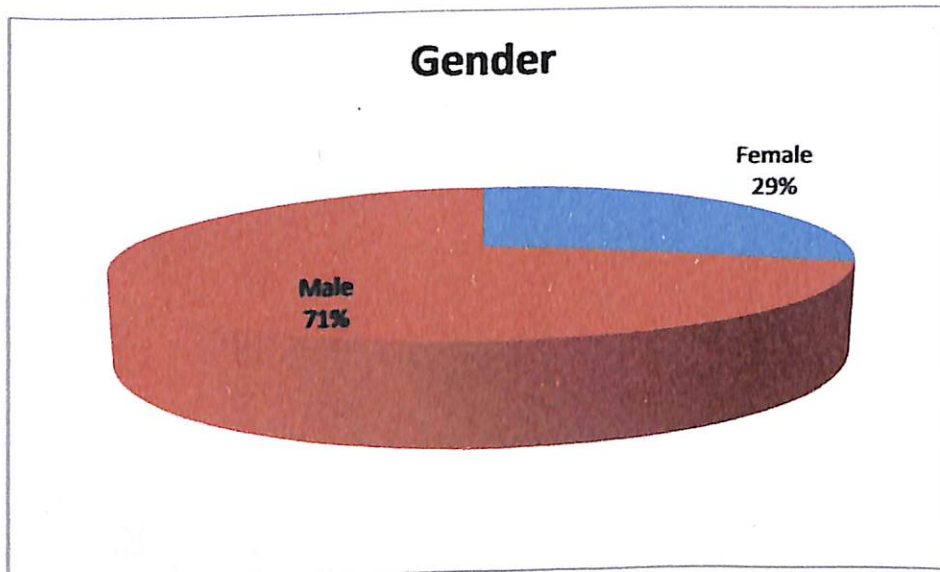
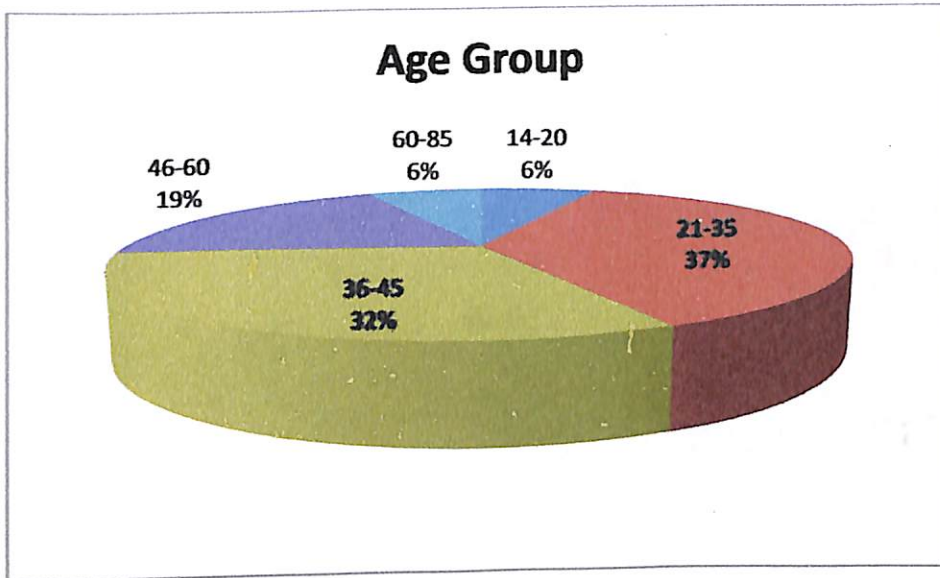


Figure 2: Age Group Distribution of sample



Most of the respondents were between 21-35 years old (37%).

Figure 3: Education Background Distribution of Sample

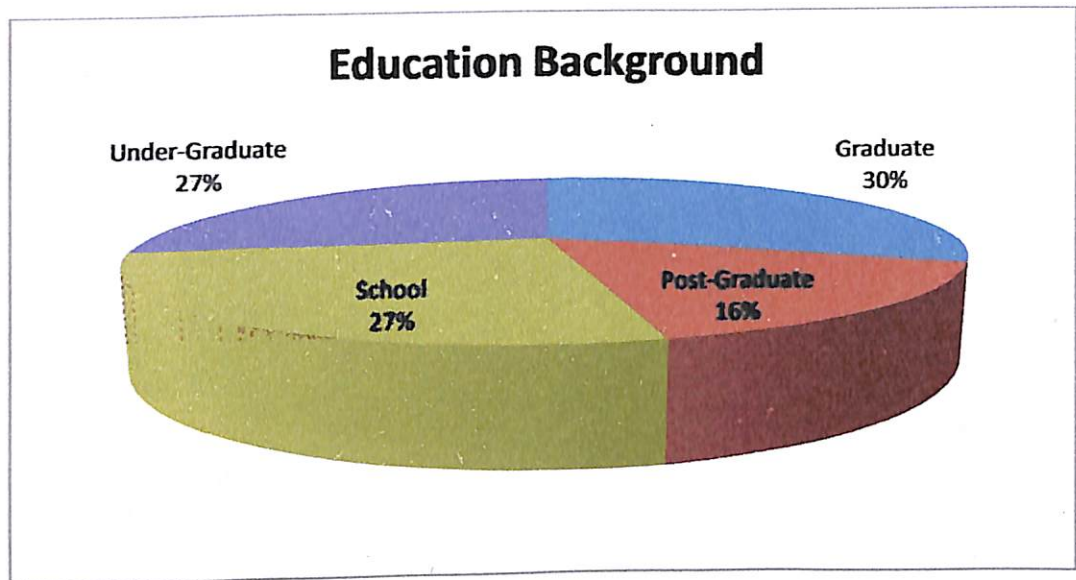
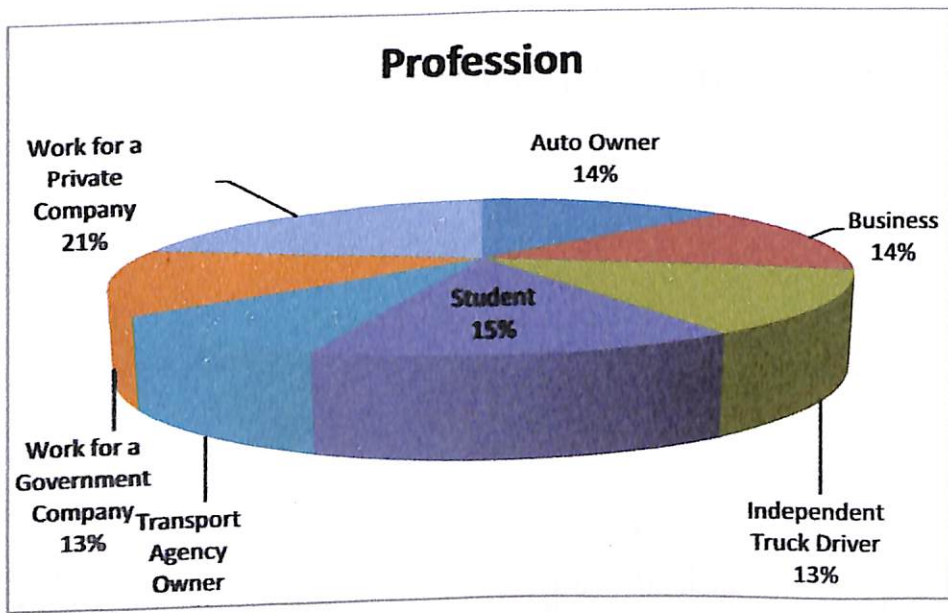
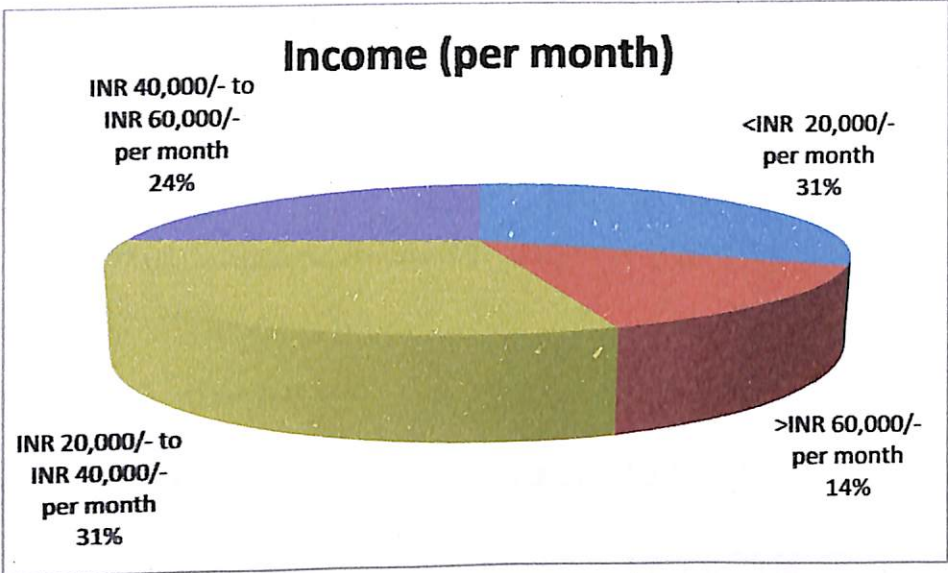


Figure 4: Profession Distribution of sample



For education and profession, 30.5% received Graduate Degree while 20.5% worked for private companies.

Figure 5: Income (per month) distribution of sample



Considering the incomes, most of the respondents (31%) earned less than INR 20,000 per month, whereas 31% earned INR 20,000-40,000 per month.

As for the brand preference, 134 respondents chose IOCL (33.50%), 113 chose BPCL (28.25%), and 153 chose HPCL (38.25%).

Measuring Brand Equity

According to Table 1, the total point on 5 attributes of the brand equity involved brand awareness, perceived quality, brand association, market perception and brand loyalty. HPCL had the highest total average point, which was 242.58, followed by IOCL with 200.62 points. BPCL had the least point of 197.08. Considering each attribute, HPCL had the highest point in 3 attributes, which were brand perceived quality (156.57), brand association (152.67), market perception (622) and brand loyalty (146.33). BPCL had the highest brand awareness at 137.17.

Table 1: Points for Brand Equity of each brand

The Test Result on the Difference of Brand Equity in Each Aspect

Brand Equity	Average point of each brand			Sig. Value from F-Test	Test the difference of average point for a pair of brand by LSD
	IOCL	BPCL	HPCL		$\alpha=0.05$
Brand Awareness	127.5	137.1667	135.3333	0.028426813	BPCL>HPCL>IOCL
Perceived Quality	116.571429	126.5714	156.5714	0.01068203	HPCL>BPCL>IOCL
Brand Association	118	129.3333	152.6667	0.549308439	Indifferent
Market Perception	520	460	622	0.986019903	Indifferent
Brand Loyalty	121.333333	132.3333	146.3333	0.33015076	HPCL>BPCL>IOCL
Total Average Point	200.680952	197.081	242.581		

Brand Awareness

The question asked to the respondents was which brand they had in mind when thinking of re-fuelling their vehicle. According to the result in Table 2, it was revealed that HPCL was the first brand in mind for most people, 153 people or 38.25%. There were 134 people thinking of IOCL, or 33.50% and there were 113 people thinking of BPCL, or 28.25%. However, considering the total point of No.1 and No.2, BPCL was the brand that people thought of the most; 310 people, or 77.5%, followed by HPCL with 259 people or 64.75%. Lastly, there were 231 people thinking of Olympus, or 57.75%.

Table 2a: Frequency and Percentage for the Ranking of Brand Awareness According to Region & Category of Outlet

Comparing Brand Equity of Petroleum Brands among Customers & Evaluating Customer Expectations from Petro Retail Outlets

2013

	Highway	Brand	No. 1	No. 2	No. 3	Sum	Weighted Sum	Weighted Average	The Brand which people thought of most	Indifferent
		IOCL	6	5	5	16	33	5.5		
		BPCL	4	9	3	16	33	5.5		
		HPCL	6	2	8	16	30	5		
		The brand which is first in respondent's minds	Indifferent towards IOCL & HPCL							
	Rural	Brand	No. 1	No. 2	No. 3	Sum	Weighted Sum	Weighted Average	The Brand which people thought of most	Indifferent
		IOCL	22	19	20	61	124	20.666667		
		BPCL	11	34	16	61	117	19.5		
		HPCL	28	8	25	61	125	20.833333		
		The brand which is first in respondent's minds	HPCL							

Table 2b: Overall Summary of Region wise Brand Awareness

Location	IOCL	BPCL	HPCL
Thane	188	218	194
Vashi	200	203	197
Raigad	176	209	215
Nashik	201	193	206

Table 2c: Overall Summary of Ranking of Brand Awareness

Brand	No. 1	No. 2	No. 3	Weighted average	Brand people thought of most	Percentage of most people who thought of the brand	Total	Percentage of people who first thought of the brand
IOCL		134	97	127.5	231	57.75%	400	33.50%
BPCL		113	197	137.16667	310	77.50%	400	28.25%
HPCL		153	106	135.33333	259	64.75%	400	38.25%
Total		400	400		BPCL			
Brand Awareness	BPCL > HPCL > IOCL							

Perceived Quality

The brand equity on perceived quality of 3 brands was shown in Table 3. It revealed that HPCL had the highest point on 6 attributes, which were 182 on quality of fuel, 155 on Reasonable Waiting Time in Queue, 149 on the behavior/service of pump attendants, 170 on dealer's goodwill, 153 on plant layout and design and 173 on non-fuel facilities provided at outlets. BPCL had the highest point on 1 attribute, which were 182 on no discrepancy between the quantity of fuel dispensed and the meter reading. There were no attributes for IOCL with No. 1 point.

Table 3: Comparison of the Average point on Perceived Quality

Comparison of the Average point on Perceived Quality

S.No	Parameter	IOCL	BPCL	HPCL
1	Quality of Fuel	124	92	182
2	No Discrepancy between the Quantity of Fuel Dispensed and the Meter Reading	104	182	114
3	Reasonable Waiting Time in Queue	129	116	155
4	Behavior/Service of Pump Attendants	108	143	149
5	Dealer's Goodwill	128	102	170
6	Plant Layout & Design	108	139	153
7	Non Fuel Facilities Provided at Outlets	115	112	173
	Average Point	116.571429	126.5714	156.5714

When considering the average total point on the perceived quality, HPCL had the highest average point of 156.57, followed by BPCL at 126.57, and lastly, IOCL at 116.57.

Brand Association

Table 4 suggested that HPCL, with 161 points and 184 points, was distinctive for being the brand that auto owners and regular personal vehicle owners chose respectively. On the other hand, BPCL, with 188 points, was recognized for being chosen by transporters. When considering the average total point, HPCL had the highest point, which was 152.67. Followed by BPCL with average point of 129.3; and finally IOCL with 118.

Table 4: Comparison of the Average Point for Brand Association

Comparison of the Average Point for Brand Association				
S.No	Parameter	IOCL	BPCL	HPCL
1	Chosen By Auto Owners	131	108	161
2	Chosen By Transporters	99	188	113
3	Regular Personal Vehicle Owners	124	92	184
	Average Total Point	118	129.3333	152.6667

Market Perception

Table 5 reveals that 211 or 53% people had a positive market perception of HPCL, followed by 196 or 49% people had a positive perception of IOCL and lastly, 188 or 47% people had a positive perception of BPCL. However for the weighted average point of market perception, HPCL had the highest total weighted average point at 622, followed by IOCL at 520 and BPCL at 460 points respectively.

Table 5: Measuring Market Perception of the 3 Brands

Measuring Market Perception of the 3 Brands

Brand	Positive	Neutral	Negative	Total	Weighted Sum
IOCL	196	136	68	400	520
Percentage	49%	34%	17%	100	
BPCL	188	133	79	400	460
Percentage	47%	33%	20%	100	
HPCL	211	139	50	400	622
Percentage	53%	35%	13%	100	

Brand	Positive	Neutral	Negative	Total	
IOCL	588	136	-204	520	
BPCL	564	133	-237	460	
HPCL	633	139	-150	622	

Brand Loyalty

Table 6 suggests that BPCL had the highest points for 2 parameters – 147 for ‘Introduce brand to other people’ and 140 points for ‘Willing to pay higher price for premium branded fuel’. HPCL had the highest points for 1 parameter – 169 points for ‘Repeat Purchase’. There were no attributes for which IOCL had the highest points. However for the total average point, HPCL had the highest point at 146.33, followed by BPCL at 132.33 and IOCL 121.33.

Table 6: Comparison of the Average Point for Brand Loyalty

Comparison of the Average Point for Brand Loyalty				
S.No	Parameter	IOCL	BPCL	HPCL
1	Repeat Purchase of same brand	121	110	169
2	Introduce brand to other people	108	147	145
3	Willing to pay higher price for premium branded fuel	135	140	125
	Average Total Point	121.333333	132.3333	146.3333

Factors which influence customers in their retail outlet preference/selection decision making

Table 7: Factors which influence Respondents in their Retail Outlet Preference/Selection Decision Making

Factors which influence Respondents in their Retail Outlet Preference/Selection Decision Making

Which factors influence you in your Retail Outlet Preference/Selection Decision Making

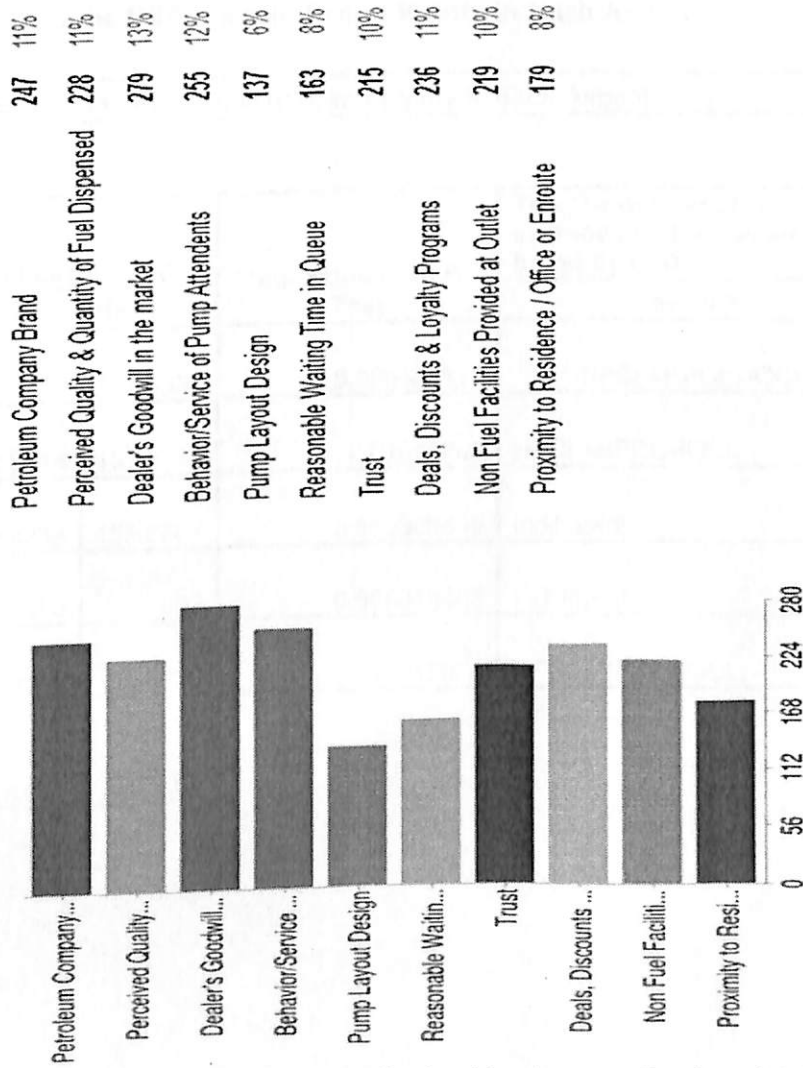


Table 7 suggests that people give more emphasis to dealers' goodwill than to petroleum company brand while making their retail outlet preference/decision making.

Hypothesis 1 was tested using Test of Homogeneity at the significant level of 0.05. The result was = 3.57103382 , d.f.=3. P-value =0.02842681. Thus, it can be concluded that customers were aware of the differences in brands. The brand with highest brand awareness was BPCL, and the lowest was IOCL. The detail was shown in Table 2.

Hypotheses 2 to 4 were tested at the significant level of 0.05. This was to compare the average point of brand equity for each brand in each area. It involved perceived quality, brand association, and brand loyalty. The test was to determine if there was any difference. One-Way Repeated-Measures ANOVA was used. This included comparing the average point of brand equity for each pair of brands in each aspect using Tukey Pairwise Comparison Test as shown in Table 1.

Table 1: The Test Result on the Difference of Brand Equity in Each Aspect

The Test Result on the Difference of Brand Equity in Each Aspect

Brand Equity	Average point of each brand			Sig. Value from F-Test	Test the difference of average point for a pair of brand by LSD
	IOCL	BPCL	HPCL		$\alpha=0.05$
Brand Awareness	127.5	137.1667	135.3333	0.028426813	BPCL>HPCL>IOCL
Perceived Quality	116.571429	126.5714	156.5714	0.01068203	HPCL>BPCL>IOCL
Brand Association	118	129.3333	152.6667	0.549308439	Indifferent
Market Perception	520	460	622	0.986019903	Indifferent
Brand Loyalty	121.333333	132.3333	146.3333	0.33015076	HPCL>BPCL>IOCL
Total Average Point	200.680952	197.081	242.581		

Table 8: One Factor Repeated Measures ANOVA Analysis

alpha value = 0.05

Hypothesis	
H ₀	Consumers were not aware of the differences between the three petroleum brands
H _a	Consumers were aware of the differences between the three petroleum brands

Anova: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance	Standard Deviation	
IOCL	400	765	1.9125	0.75172306	0.86701964	
BPCL	400	823	2.0575	0.50545739	0.71095527	
HPCL	400	812	2.03	0.73593985	0.85786937	
ANOVA						
Source of Variation	SS	df	MS	F	Pvalue	F crit
Between Groups	4.745	2	2.3725	3.57103382	0.02842681	3.003242
Within Groups	795.255	1197	0.664373			
Total	800	1199				

Since $p\text{-value} < \alpha$, therefore there is enough statistical evidence to reject the null hypothesis beyond reasonable doubt which leads us to conclude that consumers were aware of the differences between the 3 petroleum brands.

What Next ?

After all, what is the meaning of the statement "not all μ population means are equal" if we cannot tell in what way the population means are not equal? We need to know which of our population means are large, which are small, and the magnitudes of the differences among them. This calls for further analysis—other hypothesis tests and/or the construction of confidence intervals to determine where the differences exist, their directions, and their magnitudes.

Table 9: The Tukey Pairwise Comparison Test

The Tukey Pairwise Comparison Test												
\bar{x}_{BPCL}	\bar{x}_{HPCL}	\bar{x}_{IOCL}	r	MSE	n_{IOCL}	n_{BPCL}	n_{HPCL}	sqrt MSE	sqrt n_i	sqrt MSE / sqrt n_i	z	z^*P29
1.9125	2.0575	2.03	1200	3	0.66437343	400	400	0.815091058	20	0.040754653	1.96	0.079879

Degrees of Freedom of error $n-r$ 1197

Since a t distribution with 1197 degrees of freedom is, for all practical purposes, a standard normal distribution, we use $z = 1.96$ in constructing 95% confidence intervals

95% Confidence Interval for the population mean of customer responses for IOCL, BPCL & HPCL	Studentized Range Distribution q with degrees of freedom r and n-r		The Tukey Criterion $T = q_i \cdot (\text{sqrt MSE} / \text{sqrt } n_i)$	The Tukey Criterion $T = q_i \cdot (\text{sqrt MSE} / \text{sqrt } n_i)$	No. of Comparisons 3 / 21	We reject a particular null hypothesis if the absolute difference between the corresponding pair of sample means exceeds the value of T.
	Lower Interval	Upper Interval				
μ_{IOCL} 1.832621	1.92376924	3.31	0.13488757	3	IOCL with BPCL	TRUE
μ_{BPCL} 1.977621	2.137376924				BPCL with HPCL	FALSE
μ_{HPCL} 1.950121	2.109876924				IOCL with HPCL	FALSE

From these comparisons, we determine that our data provides statistical evidence to conclude that μ_{IOCL} is different from μ_{BPCL} . There are no other statistically significant differences at $\alpha = 0.05$.

We conclude that there is statistical evidence to support the claim that, on average, customers have higher brand awareness of BPCL than IOCL. No statistical evidence supports any other claim of differences in average brand awareness response ratings among the customers of Thema, Vastly, Pegasus & Numbik.

Findings

The result from hypothesis testing on brand awareness with $n=400$ was $\text{Sig}=0.028426813$. It can be concluded that different brands received different score on brand awareness perspective, at significance level of 0.05. When testing the hypothesis on the difference of brand equity on a pair of brands, it was found that BPCL had higher brand awareness than HPCL and IOCL, while, HPCL had higher brand awareness than IOCL.

The result from hypothesis testing on perceived quality with $n=400$ was $\text{Sig}=0.01068203$. It can be concluded that different brands received different score on perceived quality perspective, at significance level of 0.05. When testing the hypothesis on the difference of brand equity on a pair of brands, it was found that HPCL had higher perceived quality than BPCL and IOCL, while, BPCL had higher perceived quality than IOCL.

The result from hypothesis testing on brand association with $n=400$ was $\text{Sig}=0.549308439$. It can be concluded that different brands received same score on brand association perspective, at significance level of 0.05. When testing the hypothesis on the difference of brand equity on a pair of brands, it was found that people were indifferent towards the three brands.

The result from hypothesis testing on market perception with $n=400$ was $\text{Sig}=0.986019903$. It can be concluded that different brands received same score on market perception perspective, at significance level of 0.05. When testing the hypothesis on the difference of brand equity on a pair of brands, it was found that people were indifferent towards the three brands.

The result from hypothesis testing on brand loyalty with $n=400$ was $\text{Sig}=0.33015076$. It can be concluded that different brands received different score on brand loyalty perspective, at significance level of 0.05. When testing the hypothesis on the difference of brand equity on a pair of brands, it was found that HPCL had higher brand loyalty than BPCL and IOCL, while, BPCL had higher brand loyalty than IOCL.

Conclusion & Suggestions

According to customers' overall point of view, HPCL had the highest brand equity, followed by BPCL, and IOCL, respectively. Considering each perspective of brand equity, HPCL was the highest in 2 perspectives: perceived quality, and brand loyalty. For brand awareness, BPCL was the highest, while IOCL was the lowest in all perspectives.

Suggestions to increase brand equity in each brand can be concluded that HPCL had the higher brand equity in all perspective than that of other brands. However, when considering brand awareness, HPCL should launch dealer backed campaigns to promote brand awareness. In addition, continuous loyalty programs should also be considered. HPCL still needs to continue the investment in the marketing activities to maintain the outstanding loyalty among their customers. Service should also be improved. HPCL should take an initiative to make the transition to a one price point for its branded lubricants and should aim to phase out the distribution of lubricants from retail outlets and should limit it to just the distributors. For BPCL & IOCL, the overall brand equity was average. Nevertheless, IOCL should consider improving the service quality and the relationship it shares with its dealer network. BPCL should also improve its relationship with its dealer network

The research on brand equity of the 3 public sector petroleum brands should be done periodically and continuously. There should be a research regarding the integrated marketing communications in other areas, such as advertising, marketing events, etc. This was to determine their impacts on the increased brand equity, thus marketers can use this data to plan their marketing strategy accordingly and effectively.

Bibliography

1. Aaker, D.A. 1991. Managing Brand Equity: Capitalizing on the Value of a Brand Name. New York: Free Press.
2. Ambler, T. 1997. How Much of Brand Equity is Explained by Trust? Management Decision 35(4), 283-292.
3. Blackston, M. 1992. Observations: Building Brand Equity by Managing the Brand's Relationships. Journal of Advertising Research 32(3), 79-93.

Appendix

Format of Questionnaire

The questionnaire is divided into 4 sections.

1. Demographic data
2. Brand equity of Petroleum Companies. The details of the second section consists of: brand awareness, perceived quality, brand associations, and brand loyalty.
3. The preference toward each brand and the attributes that the respondents think of in each brand.
4. Factors which influence Respondents in their Retail Outlet Preference/Selection Decision Making

Demographic Data

1. Education

Mark only one oval.

- School
- Under-Graduate
- Graduate
- Post-Graduate

2. Male / Female

Mark only one oval.

- Male
- Female

3. Age

Mark only one oval.

- 14-20
- 21-35
- 36-45
- 46-60
- 60-85

4. Profession

Mark only one oval.

- Student
- Work for a Private Company
- Work for a Government Company
- Business
- Transport Agency Owner
- Independent Truck Driver
- Auto Owner

5. Income

per month

Mark only one oval.

- <INR 20,000/- per month
- INR 20,000/- to INR 40,000/- per month
- INR 40,000/- to INR 60,000/- per month
- >INR 60,000/- per month

6. Geographic Circle

Mark only one oval.

- Thane
- Vashi
- Raigad
- Nashik

7. Category of Retail Outlet visited by respondent to refuel his/her vehicle

Mark only one oval.

- City
- Highway
- Rural

Measuring Brand Equity of Petroleum Companies in Vashi Retail Region

Frequency & Percentage of Ranking of Brand Awareness

8. Which petroleum brands do you have in mind when you think of refueling your vehicle?

Name 3 petroleum brands that first come to your mind.

Mark only one oval per row.

IOCL BPCL HPCL

No. 1

No. 2

No. 3

Measuring Perceived Quality

9. Tick the Petroleum Brand you think is the best in its class on the following parameters

Mark only one oval per row.

IOCL BPCL HPCL

- Quality of fuel
- No Discrepancy between the Quantity of Fuel dispensed and the meter reading
- Reasonable Waiting Time in Queue
- Behavior/Service of Pump Attendants
- Dealer's Goodwill
- Plant Layout and Design
- Non Fuel Facilities Provided at Retail Outlets

Measuring Brand Association

10. Which Petroleum Brand do you associate with regard to the following parameters

Mark only one oval per row.

IOCL BPCL HPCL

- Chosen by Auto Owners
- Chosen by Transporters
- Chosen by Regular Personal Vehicle Owners

Measuring Brand Loyalty

11. For which of the following petroleum brands are you willing to do the following

Mark only one oval per row.

IOCL BPCL HPCL

- Repeat purchase
- Introduce/Recommend brand to other people
- Pay higher price for premium branded fuel

The preference toward each brand and the attributes that the respondents think of in each brand.

12. What is your level of personal preference toward each petroleum brand?

Mark only one oval per row.

Highest High Average Low Lowest

- IOCL
- BPCL
- HPCL

13. What are the top 3 attributes that you think of when referring to IOCL

Check all that apply.

- High Quality
- Personalized Vehicle Care
- Personalized Customer Care
- Innovation
- Care
- Reliability
- Passion
- Trust

14. What are the top 3 attributes that you think of when referring to BPCL

Check all that apply.

- High Quality
- Personalized Vehicle Care
- Personalized Customer Care
- Innovation
- Care
- Reliability
- Passion
- Trust

15. What are the top 3 attributes that you think of when referring to HPCL

Check all that apply.

- High Quality
- Personalized Vehicle Care
- Personalized Customer Care
- Innovation
- Care
- Reliability
- Passion
- Trust

Market Perception of Brands

16. Was what you heard on the following brands positive/negative/neutral?

Mark only one oval per row.

IOCL BPCL HPCL

- Positive
- Negative
- Neutral

Factors which influence Respondents in their Retail Outlet Preference/Selection Decision Making

17. Which factors influence you in your Retail Outlet Preference/Selection Decision Making

Check all that apply.

- Petroleum Company Brand
- Perceived Quality & Quantity of Fuel Dispensed
- Dealer's Goodwill in the market
- Behavior/Service of Pump Attendants
- Pump Layout Design
- Reasonable Waiting Time in Queue
- Trust
- Deals, Discounts & Loyalty Programs
- Non Fuel Facilities Provided at Outlet
- Proximity to Residence / Office or Enroute

Plagiarism Report For 'Comparing Brand Equity of Petroleum Brands among Customers & Evaluating Customer Expectations from Petro Retail Outlets Copy.docx'

How does Viper work.....?

[+] Read more

Location	Title	Words Matched	Match (%)	Unique Words Matched	Unique Match (%)
http://www.researchgate.net/publication/228301085_Measuring_Public_Sector_Oil_Marketing_Companies'_Brand_Awareness	Measuring Public Sector Oil Marketing Companies' Brand ...	281	8	281	8
http://www.researchgate.net/publication/228216632_Brand_Position_Customer_Loyalty_for_Public_Sector_Oil_Marketing_Companies	Brand Position & Customer Loyalty for Public Sector Oil ...	55	2	0	<1
http://www.highbeam.com/doc/1G1-66276191.html	A study of market structure: brand loyalty and brand ...	31	1	0	<1
http://www.livingthebrand.org/user/What_Is_a_brand.html	What Is a brand? - Living The Brand	28	1	0	<1
http://www.livingthebrand.com/user/What_Is_a_brand.html	Living The Brand	28	1	0	<1

Documents found to be plagiarised

Matching Content: 8%

Master Document Text

Introduction A successful brand is an identifiable product, service, person or place, augmented in such a way that the buyer or user perceives relevant, unique added values which match their needs most closely (Christodoulides & Chematony, 2010). A brand signals to the customer of the product, and protects both the customer and the producer from competitors who would attempt to provide products that appear to be identical (Aaker, 1991). Advocates of brand equity contend that for a brand to have value, it must be valued by the customer. If the brand has no meaning to customer, none of the other definitions of brand is meaningful (Cobb-Walgren et al., 1995; Keller, 2000). The oil industry influences almost aspects of business, economics and geopolitics throughout the world. India's oil market has so far been dominated by state firms such as the Indian Oil Corporation Ltd. (IOCL), Bharat Petroleum Corporation Ltd. (BPCL) and Hindustan Petroleum Corporation Ltd. (HPCL), especially in the marketing of petroleum products. These represent pretty strong brands amongst themselves, but one particular customer behavior that has intrigued the marketers and researchers for long has been the indifference exhibited by fuel consumers while making choice amongst these three brands to refuel their vehicles (Attri, Pahwa & Urkude, 2011a). With the rise in the disposable income of the Indian consumers and the ever increasing population vehicles in the country there is going to be a huge increase in the demand for Auto fuels (SIAM-Society of Indian Automobile manufacturers Each of the Public Sector Oil Marketing Company (OMC) claims in their literature that all their activities are focused towards exhibiting certain brand values for which they are known or aspire to be known in the market place. For example HPCL claims to be known for High Quality, Personalised Vehicle care and Personalised Customer care: BPCL for Innovation, Care and Reliability (abbreviated in company literature as InCaRe); and IOCL for Care, Innovation, Passion and Trust (abbreviated in company literature as CIPT). Despite these efforts there is a very low level of brand awareness and loyalty exhibited by the customers (Attri, Pahwa & Urkude, 2011b, 2011c) which indicates that the level of association of the customers these oil marketing companies might not be as strong as expected by the companies so that they can enjoy highest degree of brand loyalty exhibited by the customers. Since all brand decisions rely on in-depth understanding of customer to create a point of differentiation for sustainability over time this research is carried out aiming to study the association level of the customer with the brand propositions/ values for the public sector oil marketing companies in Thane, Vashi, Raigad and Nashik in Maharashtra, India. The results from this study would provide market insight to the OMCs regarding their current brand association level amongst the customers. Literature Review Brand is a fundamental concept originated from the fact that manufacturers needed to create one in order to show ownership and differentiation in their products (Keller, 1998). Also, it was easy for to remember (Farquhar, 1990). since having a brand is creating something tangible (Kotler, 2000), for example, name, term, sign, symbol, as well as other intangible values (Wood, 2000), such as product image and status reflection on product users. Ambler (1997) (Wood, 2000) stated that brand, from consumers' perspective, that it was like a promise from the sellers to consumers on the expectation and satisfaction on product attributes. The attributes of the brand could be real and tangible or they could be emotional and intangible. Blackston (1992) stated that brand the awareness or perception of consumers toward a particular product, regardless of the physical product itself. This discrepancy caused the consumers to be willing to pay as well as evaluate the products and remember the evaluation easier Brand is a long term asset, longer than patents or copyrights, which had limited validity period. With thorough planning and management, the brand could always stay valuable and answer to consumer needs, consequently allowing it to remain in the market for good (Kotler, 2000). Several researchers and marketing experts (Farquhar, 1990; Keller, 1998) defined brand equities in many different ways. It can be concluded that brand equity is the added value to any particular