

## *Chapter V*

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## **CHAPTER V**

### **CUSTOMER BASED BRAND EQUITY DIMENSIONS OF SELECT DURABLE GOODS**

Brand knowledge is the main conception. It is imperative to recognize what kind of structure the brand information has in the customer's mind. That is, when a customer is tackle with a brand name, what type of associations' spring up. Whatever is connected to the brand name is a vital determinant of customer behaviour. Customer Based Brand Equity dimensions can be observed as the road map and guiding force for brand building. The fundamental idea of the model is that the power of a brand lies in what customers have learned, experienced, perceived, and heard about the brand over time. It gives a yardstick by which brands can review their progress in their brand building efforts as well as a direct for marketing research initiatives

This part of the study analyses various dimensions of customer-based brand equity with respect to select durable goods.

**Objectives-II: To analyze various dimensions of customer-based brand equity with respect to select durable goods.**

#### **Descriptive Statistics**

The respondents were asked to express their opinion on a five point rating scale regarding the dimensions of customer based brand equity. The scale consisted of several statements with options ranging from Strongly Agree to Strongly Disagree. The ratings were assigned as 1-Strongly disagree, 2-Disagree, 3-Neither agree nor disagree, 4-Agree, 5-Strongly Agree, The ratings were assigned so that the higher level agreement gets higher ratings. The average ratings were found out for each statement with respect to all the customer based brand equity factors, such as, brand awareness, brand loyalty, brand association and perceived quality. The results are presented in the following tables.

#### **Descriptive Statistics - Brand Awareness**

Brand awareness is the main brand equity element. It comprises brand recognition and brand recall. Brand recognition is the capability to confirm prior experience and the

ability to remember the brand when a product category is considered about. This kind of consciousness is necessary for a brand to be able to take part in the decision process. The following table depicts the results of descriptive statistics.

**Table 5.1**  
**Descriptive Statistics - Brand Awareness**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>S.D</b>
I know the manufacturer of my favourite brand of consumer products	500	1.00	5.00	4.1780	1.14933
I am also aware of other brands manufactured by the manufacturer	500	1.00	5.00	3.5960	.99336
Appearance of the product affects consumer Awareness	500	1.00	5.00	3.6920	1.01152
Brand recognition of the product is due to its Performance	500	1.00	5.00	3.5500	1.17057
I can distinguish one brand from other	500	1.00	5.00	3.3380	1.37970
Physical significance of the brand makes more Awareness	500	1.00	5.00	3.5460	1.18942
I am very much aware about the free gifts and sales offers of the brand	500	1.00	5.00	3.5820	1.16016
My brand is fixed in my mind	500	1.00	5.00	3.5280	1.16616
Brand memory has long duration due to usage	500	1.00	5.00	3.5720	1.26492
Due to my previous knowledge about the product I am able to differentiate the brands	500	1.00	5.00	3.6440	1.21169
When I think of the product, this brand came to my Mind	500	1.00	5.00	3.5680	1.16451
Characteristics of the brand comes to my mind quickly	500	1.00	5.00	3.4560	1.15009
I can quickly recall the symbol or logo of this brand	500	1.00	5.00	3.3580	1.42615

**Source:** Primary Data

The table shows the average rating for each statement. The ratings varied between a minimum of 1 to a maximum of 5. The highest mean rating is 4.1780 for the statement ‘I know the manufacturer of my favourite brand of consumer durable products’ followed by “Appearance of the product affects consumer Awareness”. The lowest mean rating is 3.3380 for the statement ‘I can distinguish one brand from other’. All the items have average rating above 3. That is on average, the ratings of the respondents vary between 3 (Neither agree nor disagree) and 4 (Agree). The result discloses the consumers are more conscious and aware about their favourite brands. They have a strong brand conscious, able to differentiate brands and they bother about the appearance of the product and sales offers.

### **Descriptive Statistics- Brand Loyalty**

Brand loyalty has constantly been one of most important concern of marketers. A brand is valued for its capability to have an impressive impact on a firm’s marketing performance. Loyalty give insulation aligned with competitive battering. It also permits the opportunity to command a premium. Previously, brand loyalty was observed purely from the viewpoint of a customer’s reaction or behaviour. Now, behavioural approach is pooled with attitudinal dimension in defining loyalty of the consumers. Descriptive statistics for brand loyalty is given below:

**Table 5.2**  
**Descriptive Statistics - Brand Loyalty**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>S.D</b>
I use my favourite brand regularly	500	1.00	5.00	4.2680	1.06510
I usually buy this brand as my first choice	500	1.00	5.00	3.7940	1.01273
I would recommend this brand to others	500	1.00	5.00	3.5740	1.12564
I will not switch to other brand next time	500	1.00	5.00	3.2740	1.18225
I consider myself to be loyal to this brand	500	1.00	5.00	3.1840	1.43047

**Source:** Primary Data

The table shows the average rating for each statement. The ratings varied between a minimum of 1 to a maximum of 5. The highest mean rating is 4.2680 for the statement ‘I use my favourite brand regularly’ followed by “I usually buy this brand as my first

choice” The lowest mean rating is 3.1840 for the statement ‘I consider myself to be loyal to this brand’. All the items have average rating above 3. That is on average, the ratings of the respondents vary between 3 (Neither agree nor disagree) and 4 (Agree). The result discloses the consumers are more loyal to their used brands. The customer use their brands regularly and they recommend their brands to others.

### **Descriptive Statistics - Brand Association**

Brand Association may have related to associations of thoughts, character, thoughts, symbols, standard of living etc., Associations be likely to have strength of the products. Some associations connected to the brand may be powerful, while others could be weak. The brand association of consumer on durable goods was analyzed using descriptive statistics and the results are presented in the following table:

**Table 5.3**

### **Descriptive Statistics - Brand Association**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>S.D</b>
Advertisement and other promotional activities of the brand made me to associate with it	500	1.00	5.00	4.1120	1.20097
Many memorable things are associated with the brand I use	500	1.00	5.00	3.7940	1.09451
The guarantee offered by consumer goods brand are reliable and relieves me from tension	500	1.00	5.00	3.6760	1.05511
Branded goods are legally certified hence I feel safe	500	1.00	5.00	3.4880	1.23325
The information provided by the manufacturer of the brand is very consistent and relevant	500	1.00	5.00	3.4680	1.33136
My brand is associated with my personal comfort and usage	500	1.00	5.00	3.5500	1.17740
My Brand association is due to the utility of my brand	500	1.00	5.00	3.2940	1.29264

**Source:** Primary Data

The table shows the average rating for each statement. The ratings varied between a minimum of 1 to a maximum of 5. The highest mean rating is 4.1120 for the statement ‘Advertisement and other promotional activities of the brand made me to associate with it’ followed by “Many memorable things are associated with the brand I use”. The lowest mean rating is 3.2940 for the statement ‘My Brand association is due to the utility of my brand’. The score falls between 3 to 4. The result founds the consumers are more associated and stimulate with their used brands. They have strong association in using their brand and they have many memorable things associated with their brands.

### **Descriptive Statistics - Perceived Quality**

Perceived quality occupy decision about what is valued by the customers. Quality also desires to be distinguished from satisfaction. Satisfaction is determined by the expectations of the consumers. On the whole, perceived quality is an in general feeling that customers be inclined with the brand. It is normally based on some basic quality dimensions on which the customer recognizes the product’s performance or deliverance. The results of descriptive statistics are presented below:

**Table 5.4**

### **Descriptive Statistics - Perceived Quality**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>S.D</b>
Performance of the brand is superior	500	1.00	5.00	4.2420	1.09628
The brand is durable	500	1.00	5.00	3.6840	1.02090
I am satisfied with the quality certification of the brand	500	1.00	5.00	3.7000	1.12807
The appearance of the brand is good	500	1.00	5.00	3.4420	1.22378
The brand has very low defects	500	1.00	5.00	3.3200	1.37455
The functions of the brand is appreciable	500	1.00	5.00	3.4000	1.20287
The features of the brand are good	500	1.00	5.00	3.5200	1.21514
The brand offers guaranteed service to me	500	1.00	5.00	3.4300	1.31931

**Source:** Primary Data

The table shows the average rating for each statement. The ratings varied between a minimum of 1 to a maximum of 5. The highest mean rating is 4.2420 for the statement 'Performance of the brand is superior' followed by "I am satisfied with the quality certification of the brand". The lowest mean rating is 3.3200 for the statement 'The brand has very low defects'. All the items have average rating above 3 to 4. The results indicate that consumers are additional attentive about the quality about their used brands and agreed that brand has met their expectations

### **Multivariate Analysis of Variance (MANOVA) and ANOVA**

Multivariate Analysis of Variance (MANOVA) is another type of ANOVA Procedure. In the normal One – Way ANOVA, the dependent variable is compared among the groups of Independent Variable. However, in MANOVA the number of dependent variables will be more than one. In the usual ANOVA, a single F-Test value is found out, but, in MANOVA several test statistics namely Pillai's Trace, Wilk's Lambda, Hotelling's Trace and Roy's largest roots are available when testing for the significant differences among the columns of group means for the independent variables, the approximations of F-Tests for these test statistics are follows. Since several alternative statistical tests are available (as described above), the selection of the particular test to be used is generally depending on the number of hypothesis degrees of freedom.

MANOVA Technique is used in this section for the analysis of dimensions relating to the 'customer based brand equity dimensions'. The scale consisted of several different numbers of statements grouped under four dimensions namely Brand Awareness, Brand Loyalty Brand Association and Perceived Quality. These dimensions were scores were used for further analysis of MANOVA. The perception scores of these four factors were found out by adding the ratings given by the respondents for individual items under each factor.

Normal one way ANOVA has been conducted if the MANOVA result gave significant result. As a follow-up of MANOVA each factor is tested among the personal factors such as, age, gender, education, marital status, family size etc., groups to find which dimension differs significantly among the these groups. This test is conducted if MANOVA result is found to be significant.

The four brand equity dimensions, such as, brand awareness, brand loyalty, brand association and perceived quality were simultaneously compared across several personal variables. The results are discussed in the following tables.

### Perception on Brand Equity Dimensions Vs Age

The four brand equity dimensions were simultaneously compared across age of the respondents. Following table is meant for the four different dimensions scores across age groups.

**Table 5.5**

### Perception on Brand Equity Dimensions Vs Age

	Age group											
	<25 years			26-35years			36- 45years			46 years & above		
	Mean	S.D	No.	Mean	S.D	No.	Mean	S.D	No.	Mean	S.D	No
Brand Awareness	48.33	6.96	161	45.67	6.88	180	45.55	8.58	124	47.29	7.60	35
Brand Loyalty	18.80	3.70	161	17.67	3.32	180	17.79	3.67	124	18.11	3.08	35
Brand Association	26.43	4.61	161	24.88	4.43	180	24.70	5.54	124	25.57	4.34	35
Perceived Quality	30.37	5.28	161	27.46	5.29	180	28.52	5.79	124	28.54	4.92	35

**Source:** Primary Data

The table gives the mean scores of the four dimensions among different age groups. The Perception regarding Brand Awareness is higher (48.33) among respondents of below 25 years of age group. The respondents of 26-35 years age group have lowest mean score of 45.67. Similarly it could observe that for Brand Loyalty also mean scores are higher for below 25 years age group (18.80) and lowest for 26-35 years age group (17.67). Similarly, Brand Association and Perceived Quality also have higher mean scores for below 25 years compared to other age groups.



The effect of age on the brand equity dimensions were tested by framing the following hypothesis

**Ho.** The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among the age groups of respondents.

**Table 5.5 (i)**

**MANOVA for Brand Equity dimensions Vs Age group**

Effect		Value	F	Hypothesis df	Error df	Sig.	Table value
Intercept	Wilks' Lambda	.020	6001.800	4.000	493.000	**	3.357
Age group	Wilks' Lambda	.941	2.540	12.000	1304.647	**	6.654

\*\* - Significant at 1% level. \* - Significant at 5% level.

As discussed previously, the hypothesis comparing the brand equity dimensions among age groups was tested with the help of MANOVA. The F-value (1304.647) is found to be significant at 1% level as the calculated F-value is higher than the value. Since the effect of Age is tested upon the linear combination of the four brand equity dimensions, the constant term, Intercept is given above. However it has no particular importance here. In the MANOVA table, since the F-value for the age effect is significant the hypothesis that “The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among the age groups of respondents.” is rejected.

Since the MANOVA result gave significant result, as a follow-up of MANOVA the following table is produced, wherein each factor is tested (normal one way ANOVA) among the age groups to find which dimension differs significantly among these age groups. This test is conducted if MANOVA result is found to be significant.

**Table 5.5 (ii)****Tests of Between- Subjects Effects (Between age groups)**

Source	Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	Table value
Age group	Brand Awareness	791.763	3	263.921	4.803	**	3.821
	Brand Loyalty	124.851	3	41.617	3.360	*	3.821
	Brand Association	280.767	3	93.589	4.094	**	3.821
	Perceived Quality	730.697	3	243.566	8.376	**	3.821
Error	Brand Awareness	27257.405	496	54.954			
	Brand Loyalty	6143.731	496	12.387			
	Brand Association	11337.271	496	22.857			
	Perceived Quality	14423.981	496	29.081			
Total	Brand Awareness	28049.168	499				
	Brand Loyalty	6268.582	499				
	Brand Association	11618.038	499				
	Perceived Quality	15154.678	499				

Ns-Not significant \*-Significant at 5% level \*\*-Significant at 1% level

The ANOVA results for each brand equity dimension shows that all the four dimensions have significantly different among age groups. The result shows that the respondents are in age group of less than 25 years are differed in all the brand equity dimensions when compare to other age groups. This shows youngsters have more awareness about brands and they expect many good quality perception about their brands.

### **Perception on Brand Equity Dimensions Vs Gender**

The four brand equity dimensions were simultaneously compared across gender of the respondents. Following table gives the result.

**Table 5.6****Perception on Brand Equity Dimensions Vs Gender**

	Gender					
	Male			Female		
	Mean	S.D	No.	Mean	S.D	No.
Brand Awareness	45.34	7.69	274	48.14	6.97	226
Brand Loyalty	17.73	3.53	274	18.54	3.52	226
Brand Association	24.79	4.64	274	26.10	4.96	226
Perceived Quality	27.65	5.17	274	30.06	5.63	226

**Source:** Primary Data

The table gives the mean scores of the four dimensions among different gender groups. The Perception regarding Brand Awareness is higher (48.14) among respondents of female. The respondents of male have lowest mean score of 45.34. Similarly it could observe that for Brand Loyalty also mean scores are higher for female (18.54) and lowest for male gender (17.73). Similarly, Brand Association mean scores are higher for female (26.10) and lowest for male gender (24.79) and Perceived Quality mean scores are higher for female (30.06) and lowest for male gender (27.65).

The effect of gender on the brand equity dimensions were tested by framing the following hypothesis

**Ho:** The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among the gender of the respondents.

**Table 5.6 (i)****MANOVA for Brand Equity Dimensions Vs Gender**

Effect		Value	F	Hypothesis df	Error df	Sig.	Table value
Intercept	Wilks' Lambda	.020	6030.971	4.000	495.000	**	3.357
Gender	Wilks' Lambda	.946	7.016	4.000	495.000	**	3.357

As discussed previously, the hypothesis comparing the brand equity dimensions among Gender was tested with the help of MANOVA. The F-value (495.000) is found to be significant at 1% level as the calculated F-value is higher than the value. Since the effect of Age is tested upon the linear combination of the four brand equity dimensions, the constant term, Intercept is given above however it has no particular importance here. In the MANOVA table, since the F-value for the age effect is significant the hypothesis that “The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among the gender of the respondents “is rejected.

Since the MANOVA result gave significant result, as a follow-up of MANOVA the following table is produced, wherein each factor is tested (normal one way ANOVA) among the gender groups to find which dimension differs significantly among the these gender groups. This test is conducted if MANOVA result is found to be significant.

**Table 5.6 (ii)**

**Tests of Between-Subjects Effects**

Source	Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	Table value
Gender	Brand Awareness	969.947	1	969.947	17.838	**	6.686
	Brand Loyalty	80.351	1	80.351	6.466	*	3.860
	Brand Association	211.037	1	211.037	9.213	**	6.686
	Perceived Quality	722.885	1	722.885	24.945	**	6.686
Error	Brand Awareness	27079.221	498	54.376			
	Brand Loyalty	6188.231	498	12.426			
	Brand Association	11407.001	498	22.906			
	Perceived Quality	14431.793	498	28.980			
Total	Brand Awareness	28049.168	499				
	Brand Loyalty	6268.582	499				
	Brand Association	11618.038	499				
	Perceived Quality	15154.678	499				

Ns-Not significant

\*-Significantat5% level

\*\* -Significantat1% level

The ANOVA results for each brand equity dimension shows that all the four dimensions have significant differences among age groups at either 1% or 5% level of significance. The result exhibits that in all brand equity dimensions female respondents are significantly differed when compare to male respondents. This reveals female respondents have more awareness and expectation towards their brands.

### Perception on Brand Equity Dimensions Vs Education Level

The four brand equity dimensions were simultaneously compared across education level of the respondents. Following table is mean table for the four different dimension scores across Education level.

**Table 5.7**

**Perception on Brand Equity Dimensions Vs Education Level**

	Education											
	school Level			Under Graduate			Graduate			Post Graduate & Professional		
	Mean	S.D	No.	Mean	S.D	No.	Mean	S.D	No.	Mean	S.D	No.
Brand Awareness	46.65	7.84	100	47.12	7.61	225	45.05	7.76	82	46.71	6.47	93
Brand Loyalty	18.01	3.40	100	18.32	3.61	225	17.52	3.74	82	18.14	3.34	93
Brand Association	24.94	4.83	100	25.96	4.52	225	24.48	4.98	82	25.27	5.28	93
Perceived Quality	29.23	5.48	100	28.68	5.60	225	27.72	5.96	82	29.25	4.83	93

The table gives the mean scores of the four dimensions among different Education groups. The Perception regarding Brand Awareness is higher (47.12) among respondents of under graduate education level. The respondents of Graduate Education level have lowest mean score of 45.05. Similarly it could observe that for Brand Loyalty also mean scores are higher (18.32) among respondents who have undergraduate level of education. Similarly, Brand Association mean scores are higher (25.96) among respondents have

under graduate education. The mean scores of Perceived Quality are higher (29.25) for respondents who have Post Graduate & Professional education level. The respondents of Graduate Education level have lowest mean score of (27.72).

The effect of Education level on the brand equity dimensions were tested by framing the following hypothesis.

***H<sub>0</sub>***: The brand equity dimensions namely, Awareness, Brand Loyalty Brand, Brand Association and Perceived Quality have no significant difference among the Education groups of respondents.

**Table 5.7 (i)**

**MANOVA for Brand Equity Dimensions by Education**

Effect		Value	F	Hypothesis df	Error df	Sig.	Table value
Intercept	Wilks' Lambda	.021	5823.188	4.000	493.000	**	3.357
Education	Wilks' Lambda	.970	1.265	12.000	1304.647	Ns	1.760

\*\*-Significant at 1% level. \*-Significant at 5% level.

As discussed previously, the hypothesis comparing the brand equity dimensions among Education level was tested with the help of MANOVA. The F-value (1304.647) is found to be significant at 1% level as the calculated. F-value is higher than the value. Since the effect of Education level is tested upon the linear combination of the four brand equity dimensions, the constant term, Intercept is given above however it has no particular importance here. In the MANOVA table, since the F-value for the education level effect is significant the hypothesis that “The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have significant difference among the Education level groups of respondents is rejected”.

**Perception on Brand Equity Dimensions Vs Marital Status**

The four brand equity dimensions were simultaneously compared across marital status of the respondents. Following table is mean table for the four different dimension scores across Marital Status.

**Table 5.8**

**Perception on brand equity dimensions Vs Marital Status**

	<b>Marital Status</b>					
	<b>Married</b>			<b>Unmarried</b>		
	<b>Mean</b>	<b>S.D</b>	<b>No.</b>	<b>Mean</b>	<b>S.D</b>	<b>No.</b>
Brand Awareness	45.79	7.87	283	47.67	6.85	217
Brand Loyalty	17.71	3.53	283	18.59	3.51	217
Brand Association	24.76	4.92	283	26.20	4.58	217
Perceived Quality	27.88	5.60	283	29.86	5.19	217

**Source:** Primary Data

The table gives the mean scores of the four dimensions among different Marital Status. The Perception regarding Brand Awareness is higher (47.67) among respondents of unmarried group. The respondents of married group have lowest mean score of 45.79. Similarly it could be observed that for Brand Loyalty also mean scores are higher (18.59) among respondents of unmarried group. The respondents of married group have lowest mean score of 17.71. Similarly, Brand Association mean scores are higher (26.20) among respondents of unmarried group. The respondents of married group have lowest mean score of 24.76 and in case of Perceived Quality the mean scores are higher (29.86) for unmarried group. The effect of Marital Status on the brand equity dimensions were tested by framing the following hypothesis

**Ho:** The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among Marital Status of the respondents.

**Table 5.8 (i)**

**MANOVA for Brand Equity dimensions Vs Marital Status**

Effect		Value	F	Hypothesis df	Error df	Sig.	Table value
Intercept	Wilks' Lambda	.020	5945.596	4.000	495.000	**	3.357
Marital Status	Wilks' Lambda	.964	4.565	4.000	495.000	**	3.357

\*\* - Significant at 1% level. \* - Significant at 5% level.

As discussed previously, the hypothesis comparing the brand equity dimensions among Marital Status groups was tested with the help of MANOVA. The F-value (495.000) is found to be significant at 1% level as the calculated F-value is higher than the value.

Since the effect of Marital Status is tested upon the linear combination of the four brand equity dimensions, the constant term, Intercept is given above however it has no particular importance here. In the MANOVA table, since the F-value for the Marital Status effect is significant the hypothesis that “The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among the Marital Status groups of respondents” is rejected.

Since the MANOVA result gave significant result, as a follow-up of MANOVA the following table is produced, wherein each factor is tested (normal one way ANOVA) among the Marital Status groups to find which dimension differs significantly among the these Marital Status groups. This test is conducted if MANOVA result is found to be significant.



**Table 5.8 (ii)****Tests of Between-Subjects Effects**

Source	Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	Table value
Marital Status	Brand Awareness	434.699	1	434.699	7.839	**	6.686
	Brand Loyalty	94.268	1	94.268	7.603	**	6.686
	Brand Association	255.382	1	255.382	11.193	**	6.686
	Perceived Quality	480.191	1	480.191	16.296	**	6.686
Error	Brand Awareness	27614.469	498	55.451			
	Brand Loyalty	6174.314	498	12.398			
	Brand Association	11362.656	498	22.817			
	Perceived Quality	14674.487	498	29.467			
Total	Brand Awareness	28049.168	499				
	Brand Loyalty	6268.582	499				
	Brand Association	11618.038	499				
	Perceived Quality	15154.678	499				

Ns- Not significant \*-Significant at 5% level \*\*-Significant at 1% level

The ANOVA results for each brand equity dimension shows that all the four dimensions have significant differences among marital status of the respondents either 1% or 5% level of significance. It can be concluded that in all the brand equity dimensions the unmarried respondents are significantly differed when compare to married respondents. It reveals unmarried respondents have different expectation.

**Perception on Brand Equity Dimensions Vs Occupation**

The four brand equity dimensions were simultaneously compared across occupation of the respondents. Following table is mean table for the four different dimension scores across Occupation.

**Table 5.9**

**Perception on Brand Equity Dimensions Vs Occupation**

	Occupation																	
	Business			Professional			Private Employee			Govt. employee			Student			House wife		
	Mean	S.D	No.	Mean	S.D	No.	Mean	S.D	No.	Mean	S.D	No.	Mean	S.D	No.	Mean	S.D	No.
Brand Awareness	43.74	7.40	57	45.68	6.94	80	46.54	8.04	125	45.00	7.03	42	48.47	6.96	150	47.37	7.76	46
Brand Loyalty	17.54	2.92	57	17.16	3.46	80	18.26	3.23	125	17.62	3.64	42	18.93	3.68	150	17.65	4.15	46
Brand Association	24.23	4.09	57	24.24	5.30	80	25.26	4.84	125	25.07	4.66	42	26.59	4.59	150	25.50	4.99	46
Perceived Quality	27.30	4.34	57	27.84	4.89	80	27.44	6.30	125	28.43	4.60	42	30.61	5.18	150	29.80	5.69	46

**Source:** Primary Data

The table gives the mean scores of the four dimensions among different Occupation groups. The Perception regarding Brand Awareness is higher (48.47) among students group. The respondents of Business group have lowest mean score of 43.74. Similarly it could observe that for Brand Loyalty mean scores are higher (18.93) among students group. Similarly, Brand Association also mean scores are higher (26.59) among students group. The respondents of Business group have lowest mean score of 24.23 and Perceived also mean scores are higher (30.61) among students group.

The effect of Occupation on the brand equity dimensions were tested by framing the following hypothesis

**Ho:** The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among the Occupation of the respondents.

**Table 5.9 (i)**

**MANOVA for Brand Equity Dimensions Vs Occupation**

Effect		Value	F	Hypothesis df	Error df	Sig.	Table value
Intercept	Wilks' Lambda	.020	6071.237	4.000	491.000	**	3.358
Occupation	Wilks' Lambda	.893	2.823	20.000	1629.413	**	1.890

\*\*.-Significant at 1% level.

\*.-Significant at 5% level.

As discussed previously, the hypothesis comparing the brand equity dimensions among Occupation groups was tested with the help of MANOVA. The F-value (1629.413) is found to be significant at 1 % level... In the MANOVA table, since the F-value for the Occupation effect is significant the hypothesis that “The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among the Occupation groups of respondents’ is rejected.

Since the MANOVA result gave significant result, as a follow-up of MANOVA the following table is produced, wherein each factor is tested (normal one way ANOVA) among the occupation groups to find which dimension differs significantly among the these occupation of the respondents. This test is conducted if MANOVA result is found to be significant.

**Table - 5.9 (ii)**

**Tests of Between-Subjects Effects**

Source	Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	Table value
Occupation	Brand Awareness	1197.367	5	239.473	4.406	**	3.054
	Brand Loyalty	214.073	5	42.815	3.493	**	3.054
	Brand Association	405.048	5	81.010	3.569	**	3.054
	Perceived Quality	973.742	5	194.748	6.784	**	3.054
Error	Brand Awareness	26851.801	494	54.356			
	Brand Loyalty	6054.509	494	12.256			
	Brand Association	11212.990	494	22.698			
	Perceived Quality	14180.936	494	28.706			
Total	Brand Awareness	28049.168	499				
	Brand Loyalty	6268.582	499				
	Brand Association	11618.038	499				
	Perceived Quality	15154.678	499				

Ns-Not significant

\*-Significant at 5% level

\*\* -Significant at 1% level

The ANOVA results for each brand equity dimension shows that all the four dimensions have significant differences among occupation of the respondents at 1 % or 5% level of significance. The result founds that, among all dimensions student group is significantly differed when compare to other groups. Which shows the youngster have more awareness about brands, they closely associated and loyal to their favourite brands.

### Perception on Brand Equity Dimensions Vs Family Status

The four brand equity dimensions were simultaneously compared across family status of the respondents. Following table is mean table for the four different dimension scores across Family status.

**Table 5.10**

#### Perception on Brand Equity Dimensions Vs Family Status

	Family status								
	Chief Wage Earner (CWE)			Spouse of CWE			Member		
	Mean	S.D	No.	Mean	S.D	No.	Mean	S.D	No.
Brand Awareness	46.17	7.38	183	47.73	7.11	67	46.62	7.68	250
Brand Loyalty	17.97	3.25	183	17.69	3.93	67	18.29	3.64	250
Brand Association	25.18	4.26	183	25.59	5.65	67	25.59	4.98	250
Perceived Quality	27.97	5.26	183	29.09	6.45	67	29.21	5.38	250

**Source:** Primary Data

The table gives the mean scores of the four dimensions among different Family status. The Perception regarding Brand Awareness score is higher (47.73) among respondents of Spouse of Chief Wage Earner. The respondents of Chief Wage Earner have lowest mean score of 46.17. Similarly it could be observed that for Brand Loyalty mean scores are higher for Member of the family (18.29) and lowest for Spouse of CWE (17.69). Brand Association mean scores are higher for Member of the family (25.59) and lowest for Spouse of CWE (25.59) and Perceived quality mean scores are higher for Member of the family (29.21) and lowest for Chief Wage Earner (27.97).

The effect of Family status on the brand equity dimensions were tested by framing the following hypothesis.

**Ho:** The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among the Family status of the respondents.

**Table 5.10 (i)**

**MANOVA for Brand Equity Dimensions Vs Family status**

Effect		Value	F	Hypothesis df	Error df	Sig.	Table value
Intercept	Wilks' Lambda	.021	5789.081	4.000	494.000	**	3.357
Family status	Wilks' Lambda	.975	1.603	8.000	988.000	Ns	1.948

As discussed previously, the hypothesis comparing the brand equity dimensions among Family status was tested with the help of MANOVA. The F-value (988.000) is found to be significant 1% level as the calculated F-value is higher than the value. Since the effect of Family status is tested upon the linear combination of the four brand equity dimensions, the constant term, Intercept is given above however it has no particular importance here. In the MANOVA table, since the F-value for the Family status effect is significant the hypothesis that “The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among the Family status of respondents is rejected”.

**Perception on Brand Equity Dimensions Vs Monthly Family Income**

The four brand equity dimensions were simultaneously compared across monthly income of the respondents. Following mean table shows four different dimension scores across Monthly Family income groups.

**Table 5.11****Perception on Brand Equity Dimensions Vs Monthly Family Income**

	Monthly Family income														
	Rs. <30,000			Rs.30,001- Rs.50,000			Rs.50,001- Rs.70,000			Rs.70,001- Rs.90,000			Rs. >90,001		
	Mean	S.D	No.	Mean	S.D	No.	Mean	S.D	No.	Mean	S.D	No.	Mean	S.D	No.
Brand Awareness	48.64	6.55	129	45.82	7.42	175	45.96	8.11	136	45.07	7.44	42	48.22	7.60	18
Brand Loyalty	19.20	3.01	129	17.70	3.33	175	17.84	3.88	136	16.67	3.50	42	19.28	4.50	18
Brand Association	27.16	4.04	129	25.08	4.91	175	24.51	4.94	136	24.10	4.91	42	25.22	5.20	18
Perceived Quality	30.32	5.21	129	28.21	5.34	175	28.21	5.76	136	27.69	5.47	42	29.06	5.70	18

**Source:** Primary Data

The table gives the mean scores of the four dimensions among different Monthly Family income. The Perception regarding Brand Awareness is higher (48.64) among respondents earning of family income of below Rs.30, 000. The respondents of earning from Rs. 70,001 - Rs.90, 000 have lowest mean score of 45.07. Similarly it could observed that for Brand Loyalty mean scores are higher (19.28) among respondents earning of family income of above Rs.90, 000. The respondents of earning from Rs.70, 001 - Rs.90, 000 have lowest mean score of 16.67. Similarly, Brand Association score is higher (27.16) among respondents earning family income of below Rs.30, 000. The respondents of earning range from Rs.70, 001 - Rs.90, 000 have lowest mean score of 24.10 and Perceived Quality score is higher (30.32) among respondents earning a family income of below Rs.30, 000. The respondents of earning range from Rs.70, 001 - Rs.90, 000 have lowest mean score of 27.69.

The effect of Monthly Family income on the brand equity dimensions were tested by framing the following hypothesis.

**Ho:** The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among the respondents based on family Income

**Table 5.11 (i)**

**MANOVA for Brand Equity Dimensions Vs Monthly Family Income**

Effect		Value	F	Hypothesis df	Error df	Sig.	Table value
Intercept	Wilks' Lambda	.020	6064.818	4.000	492.000	**	3.357
Monthly Family income	Wilks' Lambda	.923	2.496	16.000	1503.722	**	2.012

. \*\*-Significant at 1% level. \* - Significant at 5 % level.

As discussed previously, the hypothesis comparing the brand equity dimensions among Monthly Family income groups was tested with the help of MANOVA. The F-value (1503.722) is found to be significant at 1% level as the calculated F-value is higher than the value. In the MANOVA table, since the F-value for the Monthly Family income effect is significant the hypothesis that “The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among the Monthly Family income groups of respondents.” is rejected.

Since the MANOVA result gave significant result, as a follow-up of MANOVA the following table is produced, wherein each factor is tested (normal one way ANOVA) among the Monthly Family income groups to find which dimension differs significantly among the these Monthly Family income groups. This test is conducted if MANOVA result is found to be significant.

**Table 5.11 (ii)****Tests of Between-Subjects Effects**

Source	Dependent Variable	Type Sum of Squares	df	Mean Square	F	Sig.	Table value
Monthly Family income	Brand Awareness	842.151	4	210.538	3.830	**	3.357
	Brand Loyalty	305.488	4	76.372	6.340	**	3.357
	Brand Association	595.536	4	148.884	6.686	**	3.357
	Perceived Quality	457.959	4	114.490	3.856	**	3.357
Error	Brand Awareness	27207.017	495	54.964			
	Brand Loyalty	5963.094	495	12.047			
	Brand Association	11022.502	495	22.268			
	Perceived Quality	14696.719	495	29.690			
Corrected Total	Brand Awareness	28049.168	499				
	Brand Loyalty	6268.582	499				
	Brand Association	11618.038	499				
	Perceived Quality	15154.678	499				

Ns-Not significant      \*-Significant at 5%level      \*\*-Significant at 1% level

The ANOVA results for each brand equity dimension shows that all the four dimensions have significant differences among Monthly Family income groups at either 1% or 5% level of significance. Interestingly, the respondents who have less than an income Rs.30, 000 are significantly differed among other respondents expect brand loyalty dimension. The respondents earning income between Rs.70, 000- Rs.90, 000 are significantly differed in brand loyalty dimension. This shows less family income is a not a matter for brand awareness and brand association.



## Perception on Brand Equity Dimensions Vs Family Size

The four brand equity dimensions were simultaneously compared across personal variable family status. Following table is mean table for the four different dimension scores across Family size of the respondents.

**Table 5.12**

### Perception on Brand Equity Dimensions Vs Family Size

	Family size								
	1-3 members			4-6 members			Above 6		
	Mean	S.D	No.	Mean	S.D	No.	Mean	S.D	No.
Brand Awareness	46.04	7.74	172	47.38	7.51	279	44.22	5.84	49
Brand Loyalty	17.88	3.36	172	18.24	3.72	279	18.02	3.15	49
Brand Association	25.02	4.79	172	25.66	5.01	279	25.04	3.79	49
Perceived Quality	27.87	5.32	172	29.57	5.51	279	27.06	5.46	49

**Source:** Primary Data

The table gives the mean scores of the four dimensions among different age groups. The Perception regarding Brand Awareness is higher (47.38) among respondents of 4- 6 members' in the family. The respondents of more than 6 members in family have lowest mean score of 44.22. Similarly it could observed that for Brand Loyalty mean scores are (18.24) among respondents who have 4- 6 members in the family. The respondents of 1-3 members in family have lowest mean score of 17.88. Similarly, Brand Association mean scores are high (25.66) among respondents of 4- 6 members in the family. The respondents of 1-3 members in family have lowest mean score of 25.02 and Perceived Quality also mean scores are (29.57)among respondents of 4- 6 members in the family. The respondents of more than 6 members in family have lowest mean score of 27.06.

The effect of Family size on the brand equity dimensions were tested by framing the following hypothesis

**Ho:** The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among the Family size of the respondents.

**Table 5.12 (i)**

**MANOVA for Brand Equity Dimensions Vs Family Size**

Effect		Value	F	Hypothesis df	Error df	Sig.	Table value
Intercept	Wilks' Lambda	.021	5869.738	4.000	494.000	**	3.357
Family size	Wilks' Lambda	.957	2.715	8.000	988.000	**	2.529

\*\* - Significant at 1 % level. \* - Significant at 5 % level.

As discussed previously, the hypothesis comparing the brand equity dimensions among Family size groups was tested with the help of MANOVA. The F-value (988.000) is found to be significant at 1% level as the calculated F-value is higher than the value. In the MANOVA table, since the F-value for the Family size effect is significant the hypothesis that “The brand equity dimensions namely, Brand Awareness, Brand Loyalty, Brand Association and Perceived Quality have no significant difference among the Family size of the respondents” is rejected.

Since the MANOVA result gave significant result, as a follow-up of MANOVA the following table is produced, wherein each factor is tested (normal one way ANOVA) among the Family size groups to find which dimension differs significantly among the these Family size groups. This test is conducted if MANOVA result is found to be significant.

**Table 5.12 (ii)****Tests of Between-Subjects Effects**

Source	Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	Table value
Family size	Brand Awareness	498.438	2	249.219	4.496	*	3.014
	Brand Loyalty	14.256	2	7.128	.566	Ns	3.014
	Brand Association	49.883	2	24.941	1.072	Ns	3.014
	Perceived Quality	461.550	2	230.775	7.806	**	4.648
Error	Brand Awareness	27550.730	497	55.434			
	Brand Loyalty	6254.326	497	12.584			
	Brand Association	11568.155	497	23.276			
	Perceived Quality	14693.128	497	29.564			
Total	Brand Awareness	28049.168	499				
	Brand Loyalty	6268.582	499				
	Brand Association	11618.038	499				
	Perceived Quality	15154.678	499				

The ANOVA results for each brand equity dimension shows that brand awareness and perceived quality the dimensions have significant differences among family size groups at either 1% or 5% level of significance. But in case of brand loyalty and brand association the scores are not significant. The result exhibits that for brand awareness and perceived quality there is a significant in the scores of the respondents who have 4-6 members in the family.

**Correlation between Brand Equity Dimensions**

Correlation analysis has been applied to find the relationship between brand equity dimensions on durable goods was analyzed and the results are presented in the following tables.

**Table 5.13**

**Correlation – Dimensions of Brand Equity**

	<b>Brand Equity Dimensions</b>			
	<b>Brand Awareness</b>	<b>Brand Loyalty</b>	<b>Brand Association</b>	<b>Perceived Quality</b>
Brand Awareness	1	.512**	.583**	.576**
Brand Loyalty	.512**	1	.532**	.511**
Brand Association	.583**	.532**	1	.551**
Perceived Quality	.576**	.511**	.551**	1

\*\*Correlation is significant at the 0.01 level (2-tailed).

It is seen that all the four brand equity dimensions are positively correlated. The correlation shows that degree of relationship between any two variables. Higher the value, more extent of relationship. The positive correlations show that increase in the perceptions score of one dimension will also increase in the scores of other dimensions. All the four dimensions are significantly correlated. The correlation values being above 0.50 shows that the correlations are above moderate levels. The highest correlation is 0.583 between Brand Awareness and Brand Association and the lowest being 0.511 between Brand Loyalty and Perceived quality. All the correlations are significant at 1% level. The results shows that all the four brand equity dimensions are positively and strongly associated with the each quality dimensions.