Study of Brand Equity & its components in a Tertiary Care Super Specialty Teaching Hospital

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Abstract: *The concept of evaluating Brand Equity in the competitive healthcare industry where India is having highest benefit of being one of the most preferred healthcare destination, can bring great advantage to any healthcare organization. This study was aimed at evaluating the contribution of three components that is Perceived quality, Brand loyalty, and Brand image towards brand equity of a tertiary care super specialty teaching hospital .Perception of 150 patients /patient attendants was recorded by interviewing them using a validated questionnaire containing thirty three variables. Factor analysis of these variables led to identification of six sub dimensions under the three components of brand equity. These six dimensions being Physical Aspect, Staff Attribute, Switching Aspects, Loyalty Aspects, Value for Money, Brand Value contributed highly to brand equity of the hospital.*
Keywords: *Brand image, Brand loyalty, Factor Analysis, Perceived quality.*

I. Introduction

Branding is a valuable intangible asset for sustainable growth of an organization. Positive branding enables customers to visualize product in a positive way thereby reducing customers' perceived risks in buying any service. It also helps companies achieve superior performance in a competitive market. Brand equity is considered as the power of every brand that is incorporated in the mind of all the consumers on the basis of what they have learnt, seen, felt, and heard about the brand. Brand loyalty and brand equity satisfies customer needs; therefore study of brand equity gives an insight to gain a competitive advantage in business. In health care industry it is essential for the hospitals to be concerned about providing quality services, enabling consumers to continue preferring the services from the same healthcare organization, having positive influence in the mind of customer. Brand equity can be enhanced by increasing patients' benefits and doctors' independence.

II. Review Of Literature

Different authors have different concept linked with brand equity, Keller (1993) considers brand equity as brand knowledge that is, brand and brand image. Lassar et al. (1995), on the other hand, links it with five dimensions which are performance, value, social image, trustworthiness, and attachment. Service companies specially hospitals can build strong brands by performing the core services with quality, reaching all the customer emotionally, by linking their organization's brand with trust, Lemon et al.(2001).

Bitner and Hubbert (2011) studied the customers overall impression or assessment related to the relative superiority or inferiority of the organization & the services provided by them; customer's perception developed in the process of service delivery& then performed comparison of customer's perception to their expectations thus evaluating the outcomes of delivered service.

In case of healthcare environment, if consumers continue to opt for the services from the same healthcare firm (or a provider) then he is considered as a loyal consumer. Chahal and Bala (2010) describe service brand loyalty & repurchase behavior (behavioral loyalty) positive attitude (attitudinal loyalty) of consumers toward the hospital as synonyms. Boshoff and Gray (2004) stated that several studies advocated re-visit intention as an indication for patient loyalty towards that healthcare organization. Further they described patient loyalty may be more appropriate viewed as a behavioral intention in case of hospitals. Hence, patient loyalty acts as a competitive asset for the hospital

Heerden 1995 stated that brand image is an important factor for service evaluation, taking example of a company having positive corporate image of its programs can bring in differentiation & individuality that results to high reputation, loyalty, and awareness and eventually resulting to attract consumers.

III. Research Methodology

This analytical study was based on analysis of primary data collected from patient /patient's attendant through scheduling in various General and Special ward of Hospital. The perception of patient and patient party was recorded by using validated questionnaire containing thirty three variables pertaining to three components

of brand equity. The entire process of data collection was very interactive. Sample size was calculated using Fischer's formula & questionnaire was administered to 150 respondents for a period of 7 weeks. Proportionate sampling method was used considering the hospital bed statistics for obtaining sample size of various wards in hospital. Factor analysis was conducted for data interpretation, which was done using IBM SPSS statistic 21 software.

IV. Observation & Data Interpretation

The data analysis was made on a five point ranking scale (Likert –type scale) and objective type question in order to assess the perception of the customer that is patient/patient's attendants. Figure shown below demonstrates the socio-demographics of the respondents.
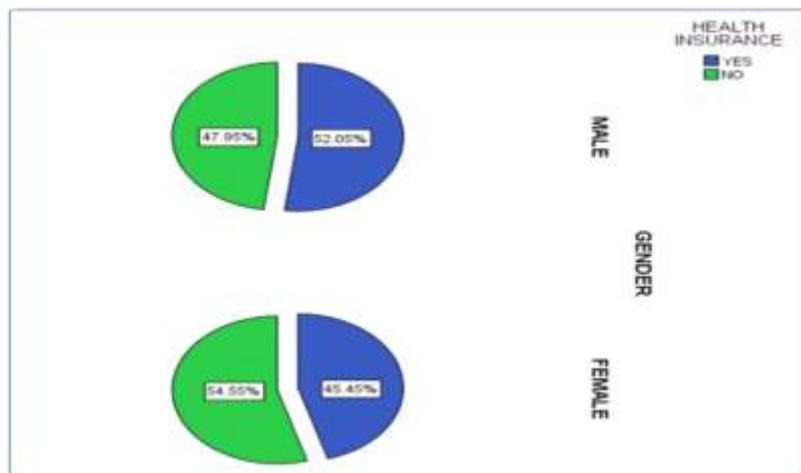

Figure1: Percentage of male and female respondent who availed health insurance

The Fig 1 above shows that fifty two percentage of male respondent have taken Health insurance and approximately forty-six percentages of women have taken health insurance.
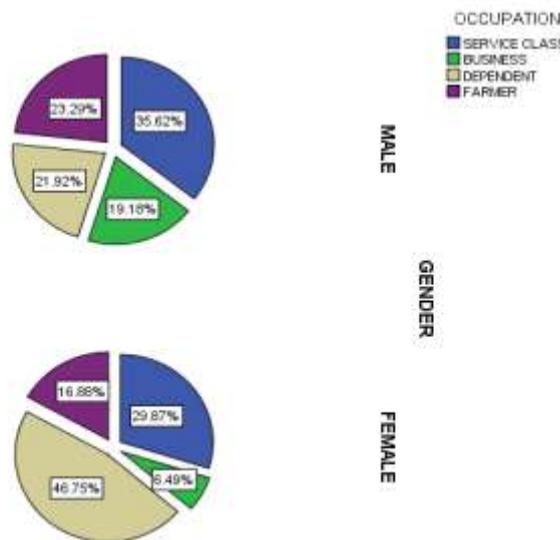

Figure 2: Percentage of occupation of male and female respondent

The Fig 2 demonstrates the occupation of male and female respondent. Amongst male respondent around thirty-six percent work at service class level, followed by farmers with twenty three percentage and twenty two percentage respectively and only nineteen percent were farmers. Among female respondent, forty seven percentage are dependent, followed by service class employment with approximately thirty percentage, seventeen percentage female respondent were farmers and six percentage pursue business as their occupation.

Table 1. KMO and Bartlett's Test for suitability of the data

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.896
Bartlett's Test of Sphericity	Approx. Chi-Square	3334.793
	Df	528
	Sig.	.000

Table1 shows the suitability of the data, as the value of Kaiser-Meyer-Olkin Measure of sample adequacy is 0.896 which is greater than0.5 and close to 1.0, and significance level .000, it shows the compatibility of the variable for the factor analysis conducted.

Table 2. Represents the number of sub dimension formed

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.063	39.586	39.586	13.063	39.586	39.586	6.947	21.051	21.051
2	2.675	8.107	47.693	2.675	8.107	47.693	5.198	15.752	36.803
3	1.792	5.431	53.123	1.792	5.431	53.123	2.973	9.009	45.812
4	1.720	5.212	58.335	1.720	5.212	58.335	2.292	6.947	52.759
5	1.191	3.609	61.945	1.191	3.609	61.945	2.196	6.653	59.412
6	1.032	3.128	65.073	1.032	3.128	65.073	1.742	5.278	64.690
7	1.000	3.031	68.104	1.000	3.031	68.104	1.127	3.414	68.104
8	.900	2.726	70.830						
9	.868	2.629	73.459						
10	.805	2.438	75.897						
11	.747	2.264	78.162						
12	.668	2.023	80.185						
13	.629	1.905	82.090						
14	.617	1.871	83.961						
15	.552	1.673	85.635						
16	.501	1.518	87.153						
17	.444	1.344	88.497						
18	.429	1.301	89.798						
19	.394	1.195	90.993						
20	.387	1.172	92.164						
21	.353	1.069	93.233						
22	.324	.982	94.216						
23	.288	.874	95.090						
24	.268	.813	95.903						
25	.222	.673	96.575						
26	.195	.590	97.165						
27	.184	.559	97.724						
28	.177	.538	98.262						
29	.157	.474	98.736						
30	.132	.400	99.136						
31	.112	.340	99.476						
32	.097	.294	99.770						
33	.076	.230	100.000						

Extraction Method: Principal Component Analysis.

The table 2 above shows that the factor analysis has reduces the thirty three variables into seven sub dimension, which belongs to the three important components that is, Perceived quality, Brand loyalty, Brand Image contributing to the Brand equity of the hospital.

Table 3. Represents commonalities or correlation of variables

Particulars	Initial	Extraction
Prefer hospital for same treatment in future	1.000	.667
Prefer hospital for different treatment	1.000	.615
Hospital is my first choice	1.000	.730
Recommend this hospital to other	1.000	.625
Positive feeling towards hospital	1.000	.717
If price variation occur switch to different hospital	1.000	.798
Switch to another hospital in future	1.000	.794
Complain others about the hospital	1.000	.743
Trust the service	1.000	.723
The hospital has clean environment	1.000	.442
The hospital perform social activities	1.000	.705
Better quality compared to other hospital	1.000	.713
Good patient care	1.000	.718
Treatment cost is reasonable	1.000	.581
Staff member have effective communication with patient	1.000	.731
Staff gives individual attention	1.000	.802
Staff is caring	1.000	.793
Staff is courteous	1.000	.825
Staff member have efficient knowledge for the patient	1.000	.705
Quick response from all the service	1.000	.702
Housekeeping personnel is gentle	1.000	.634
Staff is neat and tidy	1.000	.613
Hospital keeps record up-to-date and accurate	1.000	.700
The hospital has adequate stock of medicine	1.000	.627
The hospital has modern equipments	1.000	.626
Lighting and ventilation is good	1.000	.725
Electricity facility are good	1.000	.706
Drinking water facility is good	1.000	.650
Sewerage facilities are satisfactory	1.000	.636
Transportation facilities are satisfactory	1.000	.668
The hospital's physical facilities are visually appealing	1.000	.706
Security facility is sufficient and effective	1.000	.732
The hospital provides good parking area	1.000	.422

Table 4. Factor loading of each sub dimension

Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
LIGHTING AND VENTILATION IS GOOD	.782					
ELECTRICITY FACILITY ARE GOOD	.765					
DRINKING WATER FACILITY IS GOOD	.747					
THE HOSPITAL HAS MORDEN EQUIPMENTS	.743					
TRANSPORTATION FACILITIE ARE SATIFACTORY	.728					
THE HOSPITAL'S PHYSICAL FACILITIES ARE VISUALLY APPEALING	.723					
SEWRAGE FACILITIES ARE SATISFACTORY	.673					
SECURITY FACILITY IS SUFFICIENT AND EFFECTIVE	.651					
THE HOSPITAL HAS ADEQUATE STOCK OF MEDICINE	.626					
HOSPITAL KEEPS RECORD UPTODATE AND ACCURATE	.580					
STAFF IS NEAT AND TIDY	.558					
HOUSE KEEPING PERSONNEL IS GENTLE	.476					
STAFF GIVES INDIVIDUAL ATTENTION		.806				
STAFFMEMBER HAVE EFFICIENT KNOWLEDGE FOR THE PATIENT		.789				
STAFF IS CARING		.772				
STAFF IS COURTEOUS		.768				
QUICK RESPONSE FROM ALL TH SERVICE		.732				
STAFF MEMBER HAVE EFFECTIVE COMMUNICATION WITH PATIENT		.725				
HOSPITAL IS MY FIRST CHOICE			.791			
PREFER HOSPITAL FOR DIFFERENT TREATMENT			.750			
PREFER HOSPITAL FOR SAME TREATMENT IN FUTURE			.713			
TREATMENT COST IS REASONABLE			.528			
THE HOSPITAL PERFORM SOCIAL ACTIVITIES			.481			
TRUST THE SERVICE				.730		
POSITIVE FEELING TOWARDS HOSPITAL				.690		
RECOMMEND THIS HOSPITAL TO OTHER				.490		
THE HOSPITAL HAS CLEAN ENVIRONMENT				.476		
BETTER QUALITY COMPARED TO OTHER HOSPITAL					.681	
GOOD PATIENT CARE					.553	
THE HOSPITAL PROVIDES GGOD PARKING AREA					.429	
SWITCH TO ANOTHER HOSPITAL IN FUTURE						.868
COMPLAIN OTHERS ABOUT THE HOSPITAL						.813

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 12 iterations.

Table 6.Variables contributing more and less to the perceived quality and enhancing Brand equity

SNO.	VARIABLES CONTRIBUTING MORE TO PERCEIVED QUALITY COMPONENT	SCORE
1.	Staff is courteous	0.825
2.	Staff gives individual attention	0.802
3.	Staff is caring	0.793
4.	Security facility is sufficient and effective	0.732
5.	Staff member have effective communication with patient	0.731
6.	Lighting and ventilation is good	0.725
7.	Electricity facility are good	0.706
8.	The hospital's physical facilities are visually appealing	0.706
9.	Staff member have efficient knowledge for the patient	0.705
10.	Quick response from all the services	0.702
SNO.	VARIABLES CONTRIBUTING LESS TO PERCEIVED QUALITY COMPONENT	(Score above 0.6 and up to 0.7)
1.	Hospital keeps record up-to-date and accurate	0.70
2.	Transportation facilities are satisfactory	0.668
3.	Drinking water facility is good	0.650
4.	Sewerage facilities are satisfactory	0.636
5.	Housekeeping personnel is gentle	0.634
6.	Hospital has adequate stock of medicine	0.627
7.	The hospital has modern equipments	0.626

Table 6 shows variables contributing and enhancing the Brand Equity of the hospital, all these variables are part of perceived quality.

Table 7.Variables contributing more or less to Brand loyalty of the hospital

SNO	VARIABLES CONTRIBUTING MORE TO BRAND LOYALTY	SCORE(0.7 AND ABOVE)
1.	Not switching to other hospital in future	0.794
2.	Not complain about the hospital, if any	0.743
3.	Trust the service of the hospital	0.723
4.	Have positive feeling about the hospital	0.717
SNO	VARIABLES CONTRIBUTING LESS TO BRAND LOYALTY	SCORE
1.	Recommend this hospital to others	0.625

Table 7 shows the variable contributing to Brand equity and enhances Brand loyalty of the hospital. The first four variables with higher scores have more contribution towards brand equity.

Table 8. Variables contributing more, less and adversely to Brand image of the hospital

SNO	VARIABLES CONTRIBUTING MORE TO BRAND IMAGE	SCORE
1.	The hospital is my first choice	0.730
2.	Good patient care	0.718
3.	Better quality compared to other hospital	0.713
	VARIABLES CONTRIBUTING LESSTO BRAND IMAGE	**SCORE**
1.	Prefer this hospital for different treatment	0.66
2.	Prefer hospital for same treatment	0.615
	VARIABLES CONTRIBUTING ADVERSLY TO BRAND IMAGE	**SCORE**
1.	Parking area facility	0.422

Table 8 represents variable contributing more and less to brand image and hence affecting Brand equity respectively. The table also shows that the variable parking area facility has low score and hence it adversely affects the Brand equity.

V.   Conclusion

After factor analysis of 33 variables six sub dimensions were found that contribute to three major component of brand equity, out of which perceived quality contribute the highly to brand equity with maximum number of factor loading.
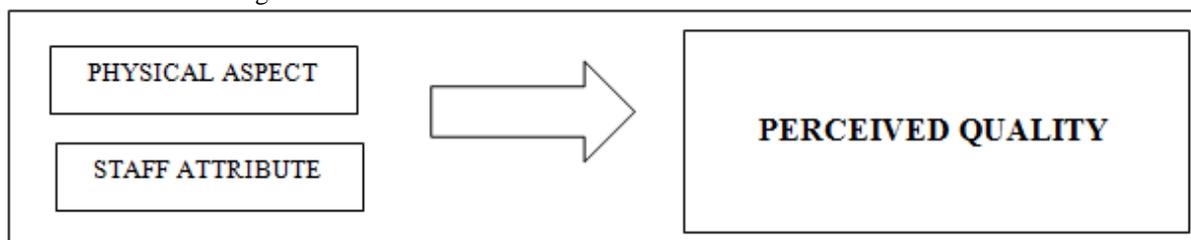

Figure 3: Sub dimensions that belongs to component Perceived Quality

Fig 3 shows that the sub dimensions physical aspect, which includes lighting, drinking, transportation, physical, security, sewerage, medical record, medicine facility and staff attribute belongs to the perceived quality component of the Brand Equity of the hospital.
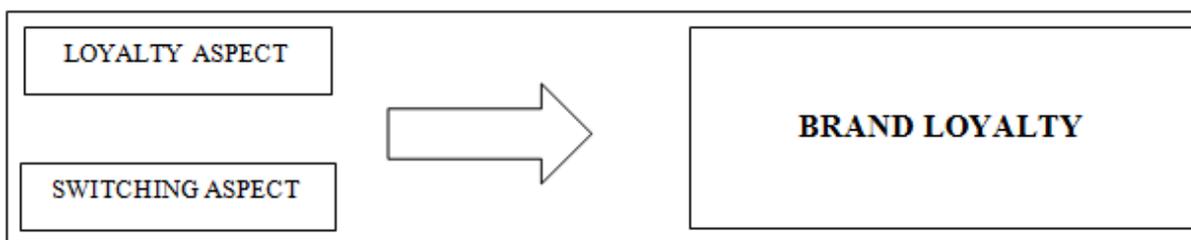

Figure4: Sub dimensions that belongs to component Brand Loyalty

Fig 4 shows that the sub dimension Loyalty aspect, which includes trust about the service, positive and clean environment, and switching aspect, belongs to the Brand loyalty component of the Brand Equity of the hospital.
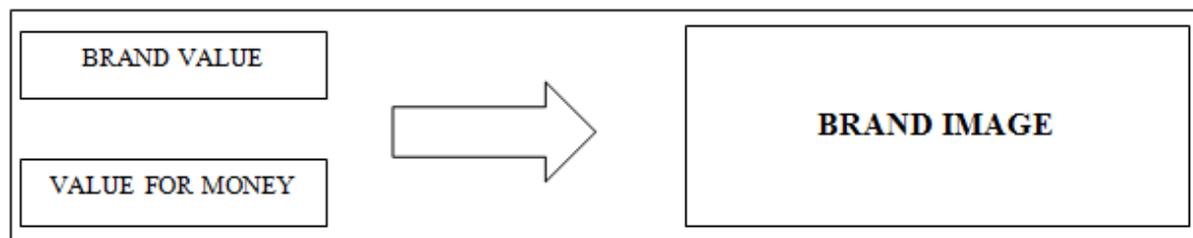
Figure5: Sub dimensions that belongs to component Brand Image

Perceived quality enhances the Brand equity of the hospital with scores of all the variables above 0.70. Variables being lighting, electricity, sewerage security facility, medicine stock availability, various staff attribute such as being caring, courteous, having sufficient knowledge, giving quick response ,giving individual attention to the staff member. Variable such as "Trust the service of the hospital" with score of 0.723, "positive feeling about the hospital" with 0.717, "better quality compared to other hospital" with 0.713 and "not switching to other hospital if there is variation in the price" with 0.794 scores ,indicates high levels of brand loyalty thus contributing to Brand equity of hospital. "Preference of hospital for same and different treatment", "performance of social activity by the hospital", "good patient care" were variables with sufficient score of 0.667, 0.615, 0.705 supporting Brand image thereby enhancing Brand equity. After the analysis it was found that two variables which are parking facility and treatment cost, affected the Brand image adversely, with score of 0.581 and 0.422. So the parking area facility can be improved using pricing mechanism, outsourcing the parking facility, providing the main parking area on operating lease.

Acknowledgements

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