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ASSESSMENT OF PATIENT SATISFACTION: A STUDY OF CORE AND SECONDARY ATTRIBUTES OF HOSPITAL HEALTHCARE SERVICES

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ABSTRACT: This research evaluates patient satisfaction with the core and secondary attributes of hospital healthcare service, using two conventional methods, stated and derived importance explaining pros and cons related to each method. The study shows the significance of some of the core attributes and secondary attributes are recoverable equally well, regardless of the method. On the other hand, satisfaction obtained through some attributes diverges depending on the evaluation method. This variation is systematic and the reason for the variation is explained which provides the basis to researchers to employ both stated and derived methods for assessing the genuine measurement of satisfaction. Further article identifies the influence of demographics on satisfaction derived through core and secondary attributes and the relation between demographics and the type of hospital visited (i.e. govt. or private). Again the gap analysis and the correlation between satisfaction and recommendation provides better picture of opportunities or gaps live in hospital healthcare services and the directions to combat these gaps or exploit opportunities respectively.

INTRODUCTION: Hospital industry is an important component of the value chain in Healthcare industry rendering services and recognized as healthcare delivery segment of the healthcare industry. In various countries, the provision of hospital care is turning into an industry with the rising presence of huge corporate hospital chains. While the demand for hospital care has augmented, public, charitable and private hospital care providers failed to deliver not only in terms of quantity (or volume i.e. number of beds) but also in term of quality of care.

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With such an untapped market and a favorable environment, corporations see a tremendous growth potential in hospital care [1]. Again, in recent years, quality assurance has emerged as an internationally important aspect in the provision of health care services. Consumer satisfaction is recognized as an important parameter for assessing the quality of patient care services. Therefore there is a need to analyze the health care system as often as possible.

Each organization in every industry these days is concerned with satisfying the users of its products or services, they are identified as clients, customers, consumers or patients. Satisfaction is a psychological concept which is easy to understand but hard to define. The concept of satisfaction overlaps with similar themes such as happiness, contentment, and quality of life. The definition of customer satisfaction has been widely debated as

organizations increasingly attempt to measure it. It is a highly personal assessment that is greatly affected by customer expectations. Satisfaction also is based on the customer's experience of both contact with the organization (the "moment of truth" as it is called in business literature) and personal outcomes. Some researchers define a satisfied customer within the private sector as "one who receives significant added value" to his/her bottom line- a definition that may apply just as well to public services [1].

Customer satisfaction differs depending on the situation and the product or service. A customer may be satisfied with a product or service, an experience, a purchase decision, a salesperson, store, service provider, or an attribute or any of these.[1] Satisfaction is not some pre-existing phenomenon waiting to be measured, but a judgment people form over a time as they reflect on their experience. A simple and practical definition of satisfaction would be the degree to which desired goals have been achieved [3].

Customer satisfaction is a collective measure of entirety purchase and consumption experience [1] (Anderson *et al.*, 1994, pp.54). It is a composite and multidimensional phenomenon consisting of many different inter-reliant parts. For example, a hospital healthcare service is a composite of elements such as technical quality of care, attitudes of healthcare professional, finances, physical facilities etc.[2] (Mary Draper *et al*., 1995), including both core and secondary attributes. The core and secondary attributes can be discussed in terms of process/outcome satisfaction.

Factors influencing "decision process satisfaction" might be different from factors influencing "outcome or consumption satisfaction". Typically, past research focused on satisfaction with the final outcome (i.e., the satisfaction obtained after receiving the services).

However, consumers may also form satisfaction judgments during the decision making process [2] (Zhang and Fitzsimons, 1999), which encompasses not only the decision making process, but also the purchase experience [7] (Engel and Blackwell, 1982; Fitzsimons *et al*., 1997). In keeping with the conceptualization above, the core attributes will be important for both "decision making process satisfaction" and "outcome satisfaction", but secondary attributes are relevant specifically in relation to "decision making process satisfaction".

Stated importance reflects the attributes that are critical when patients make their hospital choice. On the contrary, derived importance represents the effectiveness of attributes in driving overall satisfaction.

Customers can identify the differences between direct and indirect importance dimensions of product /service attributes; and, core attributes have both high direct and indirect importance. In order to verify this proposition, two sets of satisfaction attributes are considered:

1) Core attributes relating to satisfaction with various activities; and

2) Secondary attributes relating to satisfaction with various other decision drivers.

In hospital healthcare service, core attributes comprises technical quality of care, art of care, finances, while secondary attributes includes physical environment, patient convenience and accessibility. Although satisfaction with core attributes is generally considered as the main determinant of overall satisfaction, secondary attributes, too, influence patients' overall satisfaction, as well as the choice of product/service [4]. (Rong huang *et al*., 2008)

This paper aims at assessment of patient satisfaction with respect to hospital healthcare service located in tricity of Chandigarh, Mohali and Panchkula. We have assessed overall satisfaction [Calculated Patient Satisfaction Index (PSI) by using both stated and derived importance methods]; satisfaction with core and secondary attributes; and the drivers of overall satisfaction, by using conventional stated and derived importance methods [Systematically assessed core and secondary set of attributes for obtaining PSI].

We further studied whether the selection of a type of a hospital (i.e. private or govt.) is affected by demographics of patients (i.e. age, gender, income, insurance level etc.) and also observed the impact of demographic profile on patient satisfaction.

Stated Importance versus Derived Importance Methods: Stated importance is defined as the clear-cut customer preferences for the influence of a satisfaction criterion, while derived importance is estimated by a regression-type quantitative technique using patient judgments for the performance of this set of criteria [2]. It is not irrational to say that patients tend to rate every criterion as important, when asked freely [3]. Because of the tendency of patients to rate almost everything as important, the researchers are often wary of self-explicated importance data and derived importance data are considered generally more trustworthy.

Nevertheless, the comparison between derived and stated importance can give valuable information. Consider the following example: If customers of an airline are offered with a list of attributes and are asked how important the attributes 'safety' and 'timely reach' are, they may rate them as extremely important. Compared with these attributes, which obviously are basic factors ('quality of food' or 'attentiveness of flight attendants') are certainly less important. If 'safety' and 'timely reach' are delivered at a satisfactory level, their impact on satisfaction found to be low. If flight attendants are perceived as very attentive and food quality is good, these attributes will strongly affect customer satisfaction.

Hence, their relative importance is high. Thus, it suggests that customers' stated importance does not adequately measure the relative importance (derived importance) of attributes. Derived importance refers to the statistical association between attribute ratings (predictors) and overall rating (criterion). The derived importance of an attribute is statistically determined from this relationship using various techniques including:

1) Pearson correlation;

2) Standard regression coefficient or beta weight;

3) The product of the beta weight and the corresponding Pearson calculation; and,

4) The coefficient of part determination [2].

Therefore implicitly derived importance may differ from the customers' self-stated importance.

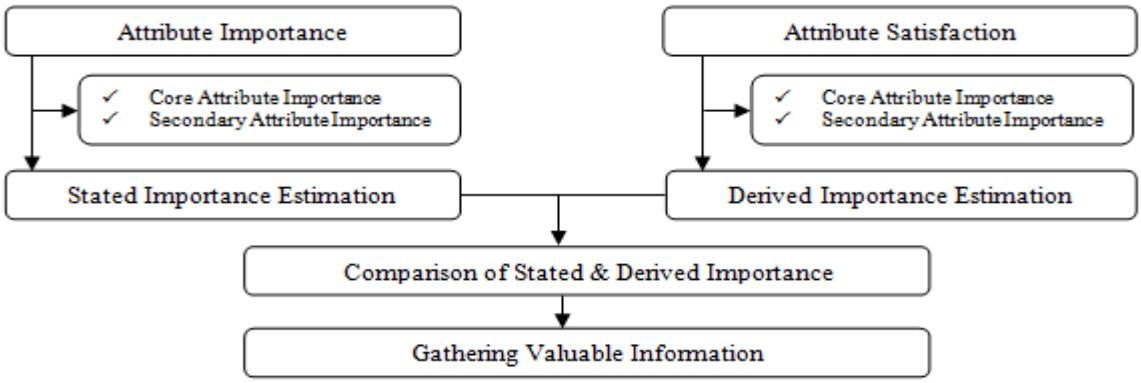

FIGURE 1 EXPLANATION OF THE BASICS OF THE MODEL BEING USED

Methods: Requisite information has been gained through a questionnaire consisting of four sections. The first and second sections consist of general information and demographics relating to patients respectively. In the third section, respondents rate the importance of 16 core attributes presented in 3 categories: Technical Quality of Care, Art of Care and Finances. Under each category, specific activities are listed and respondents rate their relative importance from 1 (not at all important) to 5 (very important).

In addition, respondents rate the importance of other decision drivers (secondary attributes), including 17 items relating to Accessibility, Patient Convenience and Physical Environment. The forth section concerns respondents' overall satisfaction, as well as their satisfaction with each of the 16 prime traits (core attributes) and 17 decision drivers. The survey has been administered on patients who already experienced healthcare service provided by hospital industry in tricity of Chandigarh, Mohali and Panchkula and out of which 400 then were included.

RESULTS: **Table 1** provides the basic idea of sample composition and demographic profile of patients that helps to understand patient-sample distribution among different categories. When the patients were asked to mention their source of information regarding the selection of particular hospital for availing health care services, Word of mouth (Friends, family & relatives) (58.6%) comes out to be a major source of information followed by Doctor Referral (33.3%).

TABLE 1: DEMOGRAPHICS AND SAMPLE COMPOSITION

Demographics	Categories	Numbers	Percentage	Overall Satisfaction Mean
Type of Hospital Visited	Private	208	52.5	3.71
	Government	188	47.5	3.62
Age	0-14	16	4.04	3. 25
	15-34	244	61.6	3.68
	35-54	48	12.1	3.92
	55-75	60	15.1	3.6
	More than 75	28	7.07	3.43
Gender	Male	256	64.6	3.62
	Female	140	35.3	3.75
Monthly Income level	Less than 5000	120	30.3	3.67
	5000-10000	68	17.2	3.71
	10001-0000	84	21.2	3.62
	0001-30000	48	12.1	3.67
	More than 30000	76	19.2	3.67
Insurance Coverage	Full coverage	100	25.2	3.52
	Semi coverage	100	25.2	3.8
	Not covered	196	49.5	3.67

TABLE 2: **IMPACT OF DEMOGRAPHICS ON TYPE OF HOSPITAL VISITED**

	Chi-Square Test Significance
Gender * Type of hospital visited	0.045*
Age * Type of hospital visited	0.000**
Monthly Income level * Type of hospital visited	0.000**
Insurance Coverage * Type of hospital visited	0.198

*Shows significant values of probability

Table 2 depicts via chi-square test the impact of demographics on type of hospital visited. The type of hospital visited is dependent on demographics like gender, age and income level, but not on insurance coverage status. The results shows here that males tend to go to private hospitals more compared to females. The age group of 15-34 years is being inclined to private hospitals more compared to others. As the income level increases, patients are more aligning themselves towards private hospitals.

Primarily, Efforts were concentrated to explore the measurement of Patient Satisfaction with respect to Hospital Service Industry based on six major dimensions. A Patient Satisfaction Index (PSI) is executed on the satisfaction ratings with respect to prime traits of hospital service and decision drivers, respectively, by both stated and derived importance approaches. Stated importance is estimated by a procedure by Bhote[1] (1998) and derived importance and overall CSI by Anton's[2] (1996) method.

PSI with respect to Prime Traits of Hospitals (Core Attributes): In order to determine dimensions underlying patients' satisfaction, a factor analysis was performed on satisfaction ratings of the 16 prime attributes prior to both stated and derived importance approaches. The resultant dimensions were used in succeeding analyses.

A factor analysis using the principal component method with Varimax rotation has been implemented.

Table 3 displays factor loadings, eigenvalues, and the explained variance. In addition, alpha coefficients for items in each factor are provided.

The factor analysis reveals three factors representing 80.94% of the total variance. The first factor – Technical Quality of Care – includes a variety of attributes related to technical skills of healthcare professionals. The second factor summarizes attitudes, care, concern, consideration, friendliness, patience and sincerity related attributes of healthcare professionals and is labeled as Art of care. Finances, the third factor, include 3 variables; cost, flexibility of payment mechanism and Comprehensiveness of insurance coverage.

Table 3: Dimensions of satisfaction rating of core factors for Hospital

Item	Factor loadings		
	Factor 1	Factor 2	Factor 3
	Technical Quality of Care	Art of Care	Finances
Availability of physicians, nurses & other staff	0.68		
How well the doctors kept you informed about your condition and what to expect next (communication)	0.784		
How well the doctors explained your tests and treatment	0.846		
Adherence to high standards of diagnosis & treatment	0.805		
Technical soundness & modernisms of equipments and facilities	0.737		
Ability of doctor to treat problems	0.798		
Outcome of treatment	0.791		
Extent to which healthcare providers pay attention to details		0.726	
Being treated with respect and courtesy		0.774	
Amount of time spent by healthcare providers		0.678	
Attitudes of healthcare providers		0.87	
Courtesy shown towards your family and friends		0.863	
Responsiveness of healthcare providers		0.822	
Cost of treatment			0.798
Flexibility of payment mechanism			0.884
Comprehensiveness of insurance coverage			0.806
Eigenvalue	10.227	1.721	1.005
% of variance	63.922	10.753	6.279
Alpha coefficient	0.959	0.935	0.876

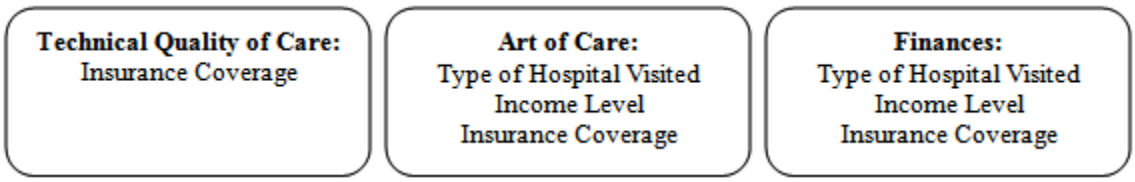

FIGURE 2: IMPACT OF VARIOUS PARAMETERS ON CORE ATTRIBUTES

The impact of various parameters on prime traits (including all three) has been analyzed (**Figure 2**). Type of Hospital Visited affected the satisfaction achieved through art of care and finances. Here t-test showed there exists a significant difference in overall satisfaction achieved through Art of Care and Finances (significance = .000) with respect to type of hospital visited.

Again the bar diagrams reveals that higher satisfaction through art of care and lower through finances is achieved in patients visiting private hospitals. Again for gender, independent samples test showed that there is no impact of gender on core attributes [no significant difference in overall satisfaction achieved through technical quality of care (significance =.078), art of care (significance =.374) and finances (significance = .795) with respect to gender]. For Income Level, ANOVA shows that there exists a significant difference in satisfaction achieved through Art of Care and Finances with respect to income level.

Here from post-hoc and bar diagrams, it is clear that the satisfaction achieved through art of care is different between lower income group (monthly income less than 5000) and higher income group (monthly income greater than 30000).

For finances, the fourth income group (monthly income 20000-30000) having significant higher satisfaction compared to second group (5000-10000) and fifth group (>30000). Finally, Insurance affected all Core Factors. Anova showed that for all core factors there exists a significant difference in satisfaction. Post–hoc and bar diagram revealed that the Group II (semi covered) is having higher satisfaction compared to others.

Derived Importance of Core Attributes Related to Patient Satisfaction: Derived importance results from regression analysis with overall patient satisfaction as criterion and the three prime traits as predictors. First two factors (Technical quality of Care and Art of Care) are found statistically significant in explaining the overall satisfaction with core attributes (**Table 4**).

In order of importance, Technical quality of Care (beta = 0.613) is followed by Art of Care (beta = 0.2) and in presence of these two, finances become insignificant (unimportant) but is retained in subsequent analysis for the sake of comparison with findings from the stated importance approach. The overall PSI from derived importance is 54.19, which is not revealing at face value. It is appropriate to benchmark this figure against CSI measured over time. Technical quality of Care (77.98) and Art of Care (21.00) dimensions contribute most to the overall PSI.

Stated Importance of Core Attributes Related to Patient Satisfaction: Table 5 represents the findings of PSI obtained from the stated importance approach. Among the three factors, Technical Quality of Care has the highest average importance rating (4.6), followed by Art of Care (4.23). The least important dimension is Finances (3.98). There is not much difference in satisfaction ratings of all three prime traits. The overall PSI is 73.15. Here, all three (Technical Quality of Care, Art of Care and Finances) are the equally important dimension in driving overall PSI. The mean importance ratings for the three dimensions are higher than their respective satisfaction mean ratings.

Comparison of Stated versus Derived Importance of Core Attributes:

1) The overall satisfaction obtained from the stated versus derived approaches are analogous. Nevertheless, the stated approach emerges to give a more favorable view of satisfaction (since PSI resulting from stated importance is higher than PSI from the derived mportance). In any case, the overall PSI scores should not be interpreted at face value as they are only meaningful when compared against a benchmark.

2) Both approaches consistently identify the top most important dimension explaining the overall PSI, namely, Technical Quality of Care. Hence, parallel validity linking the two approaches seems to exist, which is a promise for managers who strive to establish the most important dimensions underlying overall satisfaction. But again, stated importance depicts that all three prime traits are more or less equally important (stated satisfaction 17.32, 14.92, 14.52 respectively) while derived importance discovered that Technical Quality of Care is most factor in generating satisfaction followed by Art of Care and Finances found to be unimportant (derived importance 42.26, 11.38, 0.55).

   Thus interestingly, Cost, which is found insignificant in the derived approach, turns out to be among the important dimensions in the stated approach. Hence consumers when asked to attach importance, they portray all the dimensions as important, but satisfaction is most derived by Technical Quality of Care.

3) Activities ascribing higher importance ratings are not receiving higher satisfaction ratings. This finding is conceivable due to the fact that there are so many opportunities or gap still exist to be met in hospital industry.

The mean satisfaction rating of each dimension is less than its mean importance rating, suggesting that the decision drivers may be short of meeting patient expectations.

TABLE 4: RESULTS OF DERIVED IMPORTANCE APPROACH TO CSI OF CORE FACTORS

Items	S	ASI	PSI	Beta	PSI * Beta	Score
Technical Quality of Care			68.9	0.613	42.26	**77.98**
Availability of physicians, nurses & other staff	3.74	61.5				
How well the doctors kept you informed about your condition and what to expect next (communication)	3.66	67.6				
How well the doctors explained your tests and treatment	3.75	73.6				
Adherence to high standards of diagnosis & treatment	3.71	69.5				
Technical soundness & modernisms of equipments and facilities	3.77	64.4				
Ability of doctor to treat problems	3.84	72.9				
Outcome of treatment	3.90	73.1				
Art of Care			56.9	0.2	11.38	**21.00**
Extent to which healthcare providers pay attention to details	3.58	64.5				
Being treated with respect and courtesy	3.64	54.6				
Amount of time spent by healthcare providers	3.39	49.5				
Attitudes of healthcare providers	3.51	59.5				
Courtesy shown towards your family and friends	3.46	56.3				
Responsiveness of healthcare providers	3.56	56.9				
Finances			45.7	0.012	0.55	**1.01**
Cost of treatment	3.67	43.8				
Flexibility of payment mechanism	3.58	43				
Comprehensiveness of insurance coverage	3.68	50.4				
				PSI	**54.19**	**100**

Goodness-of-fit. R: .777 F: 196.756, R squared: .603 Sig: 0.00.

TABLE 5: RESULTS OF STATED IMPORTANCE APPROACH TO CSI OF CORE FACTORS

Attributes	Factor Loading	I	S	I * S	Score
Technical Quality of Care		4.60	3.77	17.32	**37.04**
Availability of physicians, nurses & other staff	0.68	4.50	3.74	16.85	
How well the doctors kept you informed about your condition and what to expect next (communication)	0.78	4.57	3.66	16.71	
How well the doctors explained your tests and treatment	0.85	4.47	3.75	16.77	
Adherence to high standards of diagnosis & treatment	0.81	4.55	3.71	16.89	
Technical soundness & modernisms of equipments and facilities	0.74	4.59	3.77	17.31	
Ability of doctor to treat problems	0.80	4.74	3.84	18.22	
Outcome of Treatment	0.79	4.76	3.90	18.55	
Art of Care		4.23	3.52	14.92	**31.91**
Extent to which healthcare providers pay attention to details	0.73	4.44	3.58	15.87	
Being treated with respect and courtesy	0.77	4.28	3.64	15.59	
Amount of time spent by healthcare providers	0.68	4.20	3.39	14.24	
Attitudes of healthcare providers	0.87	4.25	3.51	14.91	
Courtesy shown towards your family and friends	0.86	4.01	3.46	13.87	
Responsiveness of healthcare providers	0.82	4.23	3.56	15.06	
Finances		3.98	3.64	14.52	**31.05**
Cost of treatment	0.80	4.04	3.67	14.84	
Flexibility of payment mechanism	0.88	4.01	3.58	14.36	
Comprehensiveness of insurance coverage	0.81	3.90	3.68	14.36	
		69.55		254.38	
		PSI	3.66	**73.15**	**100**

PSI of Decision Drivers (Secondary Attributes): Further, similar but independent analysis was performed on various decision drivers to obtain their stated and derived importance ratings. This analysis provides a healthier understanding of overall satisfaction, a multifaceted construct that may rely not only on satisfaction with prime traits (core attributes) but also on decision drivers (secondary attributes).

Furthermore, it allows us to explore generalizability of our findings from the previous analysis of prime traits. A principal component with Varimax rotation analysis produces a three-factor solution explaining 69.85% total variance. **Table 6** displays factor loadings, eigenvalues, the explained variance and alpha coefficient for each factor. The emergent factors are clear-cut. The first one, Physical Environment, includes pleasantness, physical comfort, ambience related to hospital service and the presence of associated facility (Pathlab, Pharmacy, Food, Banking etc.). Factor two, labeled Patient Convenience, includes convenience of location and timings. Factor three – Accessibility– includes brand name, hospital size and level of accreditation.

TABLE 6: DIMENSIONS OF SATISFACTION RATING OF SECONDARY FACTORS FOR HOSPITAL

Item	Factor loadings		
	Factor 1	**Factor 2**	**Factor 3**
	Physical Environment	**Patient Convenience**	**Accessibility**
Pleasantness of the atmosphere	0.789		
Physical Comfort & Attractiveness of rooms	0.813		
Clarity of signs and directions	0.809		
Privacy you felt during the registration	0.751		
Availability of Path lab facility	0.775		
Availability of Pharmacy facility	0.819		
Availability of Radiology facility	0.8		
Availability of Food services (Cafeteria)	0.817		
Availability of Banking services	0.502		
Ease of making an appointment		0.723	
Convenience of location		0.736	
Hours during which care can be obtained		0.709	
Clarity of information for accessibility		0.829	
Consideration of needs & wants		0.772	
Hospital size			0.909
Brand name			0.889
Level of accreditation			0.857
Eigenvalue	7.744	2.161	1.969
% of variance	45.555	12.714	11.582
Alpha coefficient	0.924	0.859	0.903

The impact of various parameters on secondary attributes (including all three) has been analyzed (**Figure 3**). Type of Hospital Visited affected Secondary Factors. T-test showed that there exist a difference in satisfaction derived from Physical Environment (significance = .000) and Patient Convenience (significance =.025), but not from Accessibility (significance =.180) with respect to type of hospital visited.

Again, Bar diagram revealed that higher satisfaction achieved in case of private hospitals. For Gender, Independent sample t-test showed that there is no significant difference in satisfaction derived from physical environment (significance = .837), patient convenience (significance =.879) and accessibility (significance =.927) with respect to gender.

With Income Level Anova revealed that there exists a significant difference in satisfaction derived through Physical Environment and Accessibility with respect to income level. Further post-hoc and bar diagram showed that patients of group I (monthly income less than 5000) are having significantly low satisfaction compared to others for physical environment and group having monthly income less than 20000 (group I, II, III) separates out (being low satisfied) from the higher income groups (IV , V) for satisfaction derived through accessibility factors.

And finally with Insurance Coverage, Anova showed that there is no significant difference in satisfaction derived from physical environment (significance =.152), patient convenience (significance =.395) and accessibility (significance =.060) with respect to insurance coverage.

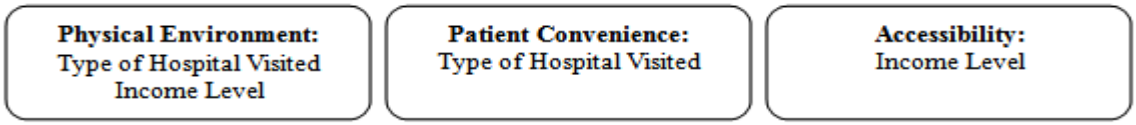

FIGURE 3: IMPACT OF VARIOUS PARAMETERS ON CORE ATTRIBUTES

Derived Importance of Decision Drivers: All three decision driver dimensions are significant in explaining overall satisfaction (**Table 7**). Patient Convenience explains the most variance (Beta=0.299), followed by Physical Environment (Beta=0.242). The least powerful dimension is Accessibility (Beta=0.209). The overall PSI is 28.18.

Stated Importance of Decision Drivers: Among the three dimensions Patient Convenience has the highest average importance rating of 4.12, followed by Physical Environment with 3.8, and finally, Accessibility with 3.67. Interestingly, Accessibility, which is found less contributing in the derived approach, turns out to be among the important dimensions in the stated approach which signifies that patients portray that branding, hospital size and level of accreditation are among important factors to satisfy from particular hospital healthcare service but indeed they derive very less of satisfaction from them. The overall PSI from stated importance approach is 63.83 (**Table 8**).

Comparison of Stated Versus Derived Importance of Decision Drivers:

1. The stated importance approach presents a more favorable view of satisfaction since the PSI from stated (63.83) is higher than that of derived importance (28.18). This finding is consistent with that of the prime traits above, as well as Chu's (2002) [3].

2. Differences exist between the importance ratings and satisfaction ratings of Physical Environment and patient convenience dimensions. Most strikingly, Accessibility, which is not much contributing in explaining the overall satisfaction in the regression model, is ranked as the second important contributor to the overall PSI in the stated importance approach. This discrepancy may be due to a systematic bias in the stated approach: When directly asked, respondents tend to mark all the attributes as important, making it difficult to identify what really is important. Overstated importance ratings exaggerate the PSI.

The mean satisfaction rating of each dimension is less than its mean importance rating, suggesting that the decision drivers may be short of meeting patient expectations.

TABLE 7: RESULTS OF DERIVED IMPORTANCE APPROACH TO CSI OF SECONDARY FACTORS

Items	S	ASI	PSI	Beta	PSI * Beta	Score
Physical Environment			39.0	0.242	9.44	33.50
Pleasantness of the atmosphere	3.36	45.6				
Physical Comfort & Attractiveness of rooms	3.31	47.3				
Clarity of signs and directions	3.357	54.3				
Privacy you felt during the registration	3.33	41.2				
Availability of Path lab facility	3.48	39.7				
Availability of Pharmacy facility	3.52	45				
Availability of Radiology facility	3.25	32.2				
Availability of Food services	3.11	31.3				
Availability of Banking services	2.78	14.5				
Patient Convenience			37.6	0.299	11.24	39.89
Ease of making an appointment	3.50	32.6				
Convenience of location	3.70	31.5				
Hours during which care can be obtained	3.58	39.3				
Clarity of information for accessibility	3.60	35.2				
Consideration of needs & wants	3.45	49.4				
Accessibility			35.9	0.209	7.50	26.61
Hospital size	3.61	33.3				
Brand name	3.74	34.5				
Level of accreditation	3.60	39.9		**PSI**	**28.18**	**100**

TABLE 8: RESULTS OF STATED IMPORTANCE APPROACH TO CSI OF SECONDARY FACTORS

Attributes	Factor loading	I (importance)	S (satisfaction)	I * S	Score
Physical Environment		3.80	3.28	12.45	**30.72**
Pleasantness of the atmosphere	0.79	4.06	3.36	13.66	
Physical Comfort & Attractiveness of waiting rooms	0.81	3.64	3.31	12.07	
Clarity of signs and directions	0.81	3.57	3.36	11.99	
Privacy you felt during the registration	0.75	3.75	3.33	12.48	
Availability of Path lab facility	0.78	4.05	3.48	14.11	
Availability of Pharmacy facility	0.82	4.01	3.52	14.12	
Availability of Radiology facility	0.80	3.89	3.25	12.64	
Availability of Food services	0.82	3.77	3.11	11.72	
Availability of Banking services	0.50	3.44	2.78	9.56	
Patient Convenience		4.12	3.57	14.69	**36.24**
Ease of making an appointment	0.72	4.09	3.51	11.86	
Convenience of location	0.74	4.03	3.70	14.16	
Hours during which care can be obtained	0.71	4.10	3.58	13.56	
Clarity of information for accessibility	0.83	4.15	3.60	14.96	
Consideration of needs & wants	0.77	4.21	3.45	14.53	
Accessibility		3.67	3.65	13.39	**33.04**
Hospital size	0.91	3.38	3.61	12.22	
Brand name	0.89	3.83	3.74	14.34	
Level of accreditation	0.86	3.79	3.60	13.64	
		65.77		209.91	
		PSI	3.19	**63.83**	**100**

Goodness-of-fit, R: .580 F: 65.658, R squared: .337 Sig: 0.00.

Further, T-test showed that there exist a significant difference between expectation & satisfaction for all dimensions (significance = .000 for all 5 dimensions) except accessibility factors (significance = .741) (**Figure 4**). There exist a high correlation (.740) between overall satisfaction and recommendation for a particular hospital.

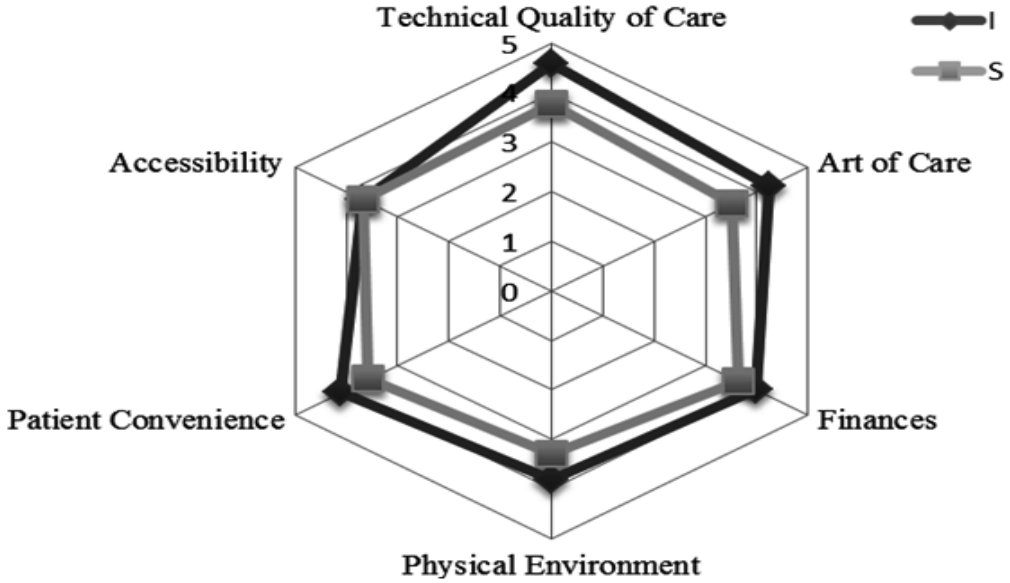

FIGURE 4: GAP ANALYSIS

I= Importance and S= Satisfaction

DISCUSSION AND IMPLICATIONS: This research uncovers the major six dimensions of patient satisfaction including core (Technical Quality of Care, Art of Care, Finances) and secondary (Physical Environment, Patient Convenience, Accessibility) attributes. Again study finds that the overall patient satisfaction level evaluated by derived versus stated importance techniques is analogous, but not the same. Again, it demonstrates that importance scores for core and secondary attributes diverge with derived versus stated methods. Given discrepant satisfaction scores and attribute importance, this study provides supplementary insight for picking up a suitable method.

The two approaches appear to be quantifying different fundamental constructs; and so, the variations innately lie in the approaches. Stated importance characterizes what attributes are important when patients are making their hospital healthcare service choice, or what traits patients are seeking in the hospital healthcare service. In contrast, derived importance signifies the effectiveness of attributes in driving overall satisfaction. Core attributes, illustrated by high explicit and implicit importance [3] (Vavra, 1997), are recovered equally well by the stated or derived methods. Importance of secondary attributes, on the other hand, varies depending on the evaluation method. Hence, derived methods are more effective in recovering importance of secondary attributes.

In general, patients tend to allocate higher importance ratings to features with the stated method. In reality, Finances and Accessibility dimensions, which are insignificant or less significant in the derived importance model, is assigned high importance in the stated ratings. They are something expected and important, but they do not essentially add significantly to the prophecy of overall satisfaction, as long as they exit at an expected level.

Although Finances and Accessibility at the current level may not appear as an important factors contributing toward overall satisfaction, failure to maintain the expected level of both may lead to Finances and Accessibility becoming the important determinants of overall satisfaction.

Managers therefore must vigilantly understand results from the two methods in order to obtain full appreciation of the condition.

Here, among core attributes, all three dimensions receive more or less equal score (Technical quality of care = **37.04,** Art of care = **31.91,** Finances = **31.05**) when measured through stated importance method. And thus revealing the fact that people attach equal importance to every dimension when asked, but in reality when they experience the service finances dimension becomes insignificant or not important if they are getting satisfied for technical quality of care and art of care (Derived score for Technical quality of care = **77.98,** Art of care = **21.00,** Finances = **1.01**). Among secondary attributes, patient convenience is the major decision driver (stated score = **36.24** derived score = **39.89**).

Physical environment was found to be less important compared to accessibility in stated importance method (Physical environment = **30.72**, Accessibility = **33.04**), but over passing the score of accessibility in derived satisfaction method (Physical environment = **33.50**, Accessibility = **26.61**), thus revealing the fact that people attach less importance to physical environment, as it is expected attribute of the service and thus the minimum expected level of the attribute should always be present and in reality when people experience the service, the satisfaction is derived from this attribute.

Moreover, Study finds that type of hospital visited i.e. govt. or private is affected by demographics such as gender, age and income level. Type of Hospital Visited and Income Level influence satisfaction derived from core as well as secondary factors thus being most influencing demographics in hospital selection, while Insurance Coverage only concern satisfaction relating to secondary factors.

Furthermore, a handful of opportunities exist for satisfying the patient needs as there are significant gaps live for many of attributes seen through differences between importance and satisfaction. There exist a high correlation between overall satisfaction and recommendation for a particular hospital, thus, the healthcare service experience with a particular hospital will definitely provide some inputs for revisit and recommendation.

Further, we found out that the primary source of information is friends, family and relatives (WOM), thus recommendation is being of utmost importance and thus attention should be paid to provide a praiseworthy experience to patients.

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