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RESEARCH ARTICLE

SERVICE QUALITY IN HOSPITALS [PATIENT'S PERSPECTIVE]

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ABSTRACT

Rendering quality service is a key to survival and success today. There is a gap between the quality rendered by service provider and quality required by patient, which needs to be measured. Service quality can be described in terms of (i) objective characteristics such as service time, wait time etc. that can be easily quantified and (ii) perceptual characteristics of the patients, which includes various dimensions of service quality. In this paper, we are evaluating the requirements of Health Care Services as perceived by patients by developing a Questionnaire for measuring Service Quality on the basis of a hypothesized model. The responses will be evaluated using Factor Analysis to assess whether the factors identified in the model are significantly influencing Service Quality in Hospitals and to develop a working model which can also be used for developing necessary managerial strategies for achieving the ultimate objectives of Patient Satisfaction.

Key words:

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INTRODUCTION

In India not only quantity of health services and infrastructure, but also the quality of both is poor (Seema Joshi 2005). With populations getting afflicted with diseases that require enormous resources for treatment – cum – care, with managed health care still in primitive stages, service quality in hospitals has captured the attention of researchers and practitioners alike.

Choosing the correct healthcare hospital is always a challenge for patients and they do it taking a number of factors into consideration. They make the choice based on who they expect will cure their health problems, will not harm them in any way, will give relief in minimum time and will not cost too much money. Ensuring service quality is beneficial not only for the patients but for the healthcare professional as well. Patients who perceive they are content with the service that they have been provided will be the biggest advertisers for the healthcare hospital. They would praise the hospital, would go to the hospital again in future and would also be willing to pay a price premium for the services and equally important recommend to others. It is common knowledge today that retention of patients is much more profitable than attracting new patients. Attracting

new patients is always many folds expensive than retaining existing patients.

If we look at the other side, patient dissatisfaction can lead to big losses for a hospital. It is because one dissatisfied patient does not mean loss of just one patient but the negative word of mouth would lead to many more patients being apprehensive and trying out other hospitals. Therefore healthcare providers have a lot to gain if they can understand their patients' expectations, which would lead them to serve their patients better and also build long-term relationships with them. This requires them to make a conscious attempt in this direction. They must also appreciate the fact that with increasing modernization and education levels in society, the expectations of patients from healthcare providers is constantly growing and becoming much more challenging.

It should also be understood that patients look not just at the doctors and the related staff while reviewing service quality in their mind but look for cues and signals that are redolent of the quality of treatment they are likely to receive from a service provider. Surrogate indicators of service quality like appearance of the staff, the aesthetics of the hospital, relationship with doctors and nurses etc may be utilized by patients to assess the efficaciousness of the service provider.

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Secondary literature studied while developing the hypothesised model: In the book *Delivering Quality Service* (Valarie A. Zeithaml, A Parasuraman & Leonard Berry 1990), the authors used focus groups of four service sectors: retail banking, credit cards, securities brokerage and product repair & maintenance, to determine the criteria used by customers in judging service quality. Ten general criteria or dimensions are: (i) Tangibles, (ii) Reliability, (iii) Responsiveness, (iv) Competence, (v) Courtesy, (vi) Credibility, (vii) Security, (viii) Access, (ix) Communication, & (x) Understanding Customer.

Building on the conceptual definition of service quality and the ten evaluative dimensions, the authors (Valarie A. Zeithaml, A Parasuraman & Leonard Berry 1990) embarked on a quantitative research resulting in a parsimonious instrument (SERVQUAL). The various statistical analysis conducted in constructing SERVQUAL revealed correlation amongst the last seven dimensions listed above. The dimensions defined in SERVQUAL are as follows: Tangibles, Reliability, Responsiveness, Assurance, & Empathy. The entire approach was formulated on the tenet that customers entertain expectations of performances on the service dimensions, observe performance and later form performance perceptions. The authors defined service quality as the degree of discrepancy between customers' normative expectations from the service providers and their perceptions of the service performance.

The point worth debating (G.S. Sureshchandar 2001) here is that the comprehensiveness of the 22-item scale proposed by Parasuraman *et al.* (1988) in addressing the critical dimensions of service quality is in question, for the simple reason that a careful examination of the scale items divulges that the items at large, focus on the human aspects of service delivery and the remaining on the tangibles of service (like the effect of atmospherics, design and décor elements, appearance of equipment, employee dress, etc.).

In healthcare research, the quality of healthcare has been defined as the "ability to achieve desirable objectives using legitimate means" (Donabedian 1988) where the desirable objectives imply an achievable state of health. The population today is much more aware about health care needs and has a view about what it expects towards quality healthcare for the amount of resources it spends. It is also corroborated by certain studies. While acknowledging the fact that patients are not as qualified as doctors in accessing technical quality, some authors purport that patients can distinguish between personal and professional aspects of quality (Brody *et al.* 1989).

Kirsh and Reeder (1969) also report that patient judgments of professional quality are well correlated with professional assessments of care. Therefore previous research has demonstrated that patients are good judges of service quality. The core service portrays the 'CONTENT' of a service. 'What' is delivered is as substantial as 'how' it is delivered. Schneider and Bowen (1995) clarified that many a time managers become so involved with all the procedures, processes and contexts for service, that they tend to overlook that there is also something called the 'core service'. Rust and Oliver (1994) defined the service product as whatever service 'features' that is offered.

The service delivery represents the 'HOW' of a service. It has two distinct and disparate features: (i) Human element of service delivery, which has been effectively addressed by the SERVQUAL. (ii) The processes, procedures, systems and technology that would make service seamless one. The second aspect is as crucial as the first one. Patients would always like and expect the service delivery processes to be perfectly standardized, streamlined and simplified so that they could receive the service without any hassles, hiccups or undesired / inordinate questioning by the service providers.

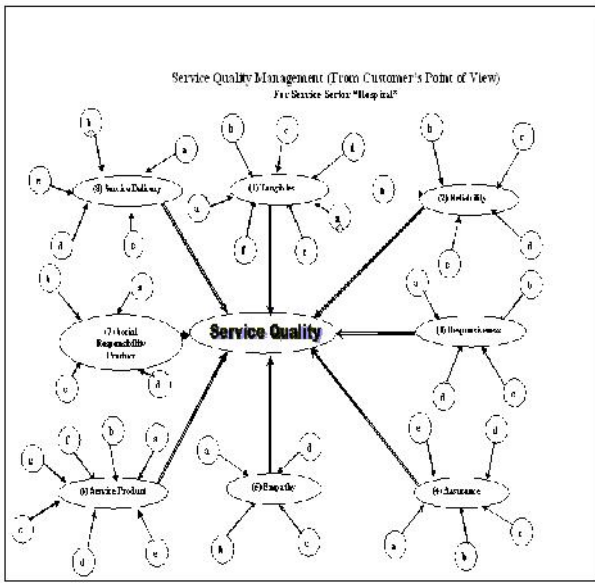
Social responsibility helps an organization to lead as a corporate citizen in encouraging ethical behaviour in everything it does. This critical factor has seldom found a place in the quality management literature, even though it does come into picture in the Malcolm Baldrige National Quality Award Criteria (Malcolm Baldrige National Quality Award Guidelines, 1998) under the heading 'Company responsibility and citizenship'. A study conducted by 'Consumer Reports' on consumers of non-Banking financials (Zemke & Schaaf, 1990) found that one of the predominant consumer concern on service quality was: 'Equal treatment tempered by pragmatism, stemming from the belief that everyone, big or small, should be treated the same'. They were also concerned about getting good service at a reasonable price, but not at the expense of quality.

The point which merits articulating here is that an organization cannot count only on financial performance to survive in this ever-changing scenario of global competition, but also has a responsibility to the society in which it exists. Albeit this feature sounds highly abstract and intangible, it does contribute to the formation of the quality perceptions by patients. A hospital institution that provides free medicine to needy ones would certainly be adored and appreciated by the patients. These subtle, but nevertheless forceful, elements send strong signals towards improving the hospital's image and goodwill and consequently influencing the patients' overall evaluation of service quality and their loyalty to the hospital.

On the basis of the above secondary literature survey related to Service Quality, it is postulated by the authors of this paper, that service quality in hospitals is based essentially on the following eight dimensions for Service Quality (i) Tangibles, (ii) Reliability, (iii) Responsiveness, (iv) Assurance, (v) Empathy, (vi) Service Product, (vii) Social Responsibility, & (viii) Service Delivery (Prajapati, B.A., Kachwala, T.T. 2006)

Hypothesised Service Quality Model for Hospitals: The Service Quality model is defined here as the representation of the system that is constructed to study some aspects of that system or the system as a whole (Donald R Cooper, Pamela Schindler, 2003). It represents the phenomenon through the use of analogy. It describes the behaviour of elements in a system where theory is inadequate. The hypothesis is that each of the eight factors listed in the model are individually & jointly influencing Service Quality in Hospitals. The factors are interrelated, therefore interdependence of the factors is assumed. Refer model drawing below and the dimensions defined in the Service Quality Model for Hospitals are as follows: (a) (Operational definition of the terms) (b) Tangibles (Facilities), (c) Reliability, (d) Responsiveness (Timeliness),

(e) Assurance, (f) Service product (outcome of service/core service), (g) Social responsibility and (i) Service delivery



Method of collecting the data: The interrogation / communication method of study has been followed. The data has been collected using personal & impersonal means. The collected data has resulted from self-administered or self-reported instruments personally delivered.

The Time dimension: The study is cross sectional as it is carried out once and represents a snapshot of one point in time.

Designing the Questionnaire for Service Quality Management: Service quality evaluation of “Hospitals” was carried out using a self-administered questionnaire. It was left to the respondents to complete this instrument. The initial inputs for SQM questionnaire have been obtained from SERVQUAL and other related literatures of Service Quality. All statements were phrased positively as suggested by PZB (Parasuraman, Zeithaml & Berry 1994). The first level inputs for the design of the questionnaire were the variables / dimensions defined in the Service Quality Model. These inputs were translated in the form of questions, which were submitted to functional experts for critical comments and content validation. Comments were invited from Dr. R. R. Bhattacharya MD Cardio, Raj Hospital, Ranchi, Dr. R K Acharya Nephrologist, Raj Hospital, Ranchi, Dr. Priya Dey Jagjivan Ram Railway Hospital, Mumbai Central & Dr. D Shome Metropolitan Heart Institute, Ghatkopar, Mumbai.

The nature of measurement: (Donald R Cooper, Pamela Schindler, 2003) It consists of assigning numbers to empirical statements in compliance with a set of rules. We select a statement, develop a set of mapping (assigning) rules (guides) and apply the mapping rule to each observation of the statement. The goal of measurement is to provide the highest quality, lowest error data for testing hypothesis. Interval scale data (or equal interval scale) have the power of nominal & ordinal scale data plus the concept of equality of interval scale. Responses of the items were obtained on a seven-point Likert scale with anchors 1 ‘Not essential’ & 7 ‘Absolutely essential’. It consists of statements that express either a favorable or

unfavorable attitude towards the variable of interest. The respondent is asked to agree or disagree with each statement. This scale produces interval data. When a scale is interval, we use the arithmetic mean as a measure of central tendency, standard deviation as a measure of dispersion, correlation coefficient for measuring the degree of association & t-tests for testing of hypothesis.

Format of the Questionnaire: The Questionnaire has three parts A, B & C

Part A is designed to assess a scale of relative importance of the eight factors identified for SQM. The patients were asked to allocate 100 points for the factors according to the importance of the features. On the basis of the responses, the average score for each of the factors can be developed. In the order of the average score, the most important factor and the least important factor can be identified. From the compiled data, the percentage of responses that have considered a particular factor most important & on similar lines, a factor considered the least important could also be obtained.

Part B is the heart of the Questionnaire. It is designed to evaluate whether each of the 41 statements & eight factors compiled from 41 statements based on hypothesised Service Quality model are individually and jointly, significantly influencing Service Quality. The respondents have marked on Likert scale 1–7. These 41 statements evaluate the 8 factors of Service Quality. The patients were asked to mark a number that truly reflect their feelings regarding Hospitals for all the 41 statements. Each of the factors & statements could be checked for statistical significance using t test.

Part C of the questionnaire is designed for validation of the model adequacy. The content validity is the extent to which it provides adequate coverage of the investigative questions under study. Determination of the content validity is judgmental. The objective of Part C is to assess any other factor (service specific factors) influencing service quality, other than the eight factors already listed in Part A & Part B.

Actual Data Analysis was based on 84 Responses and the respondents have been from patients of different Hospitals predominantly in Mumbai. The following are the summary analysis of the three parts of the Questionnaire:

Part A of the Questionnaire

Table 1 Response Average, Rank, Std Deviation, Coeff of Variance								
Part A of the Questionnaire								
Features	Responses (Points)				Response Average	Response Rank	Standard Deviation	Coefficient of Var
	1	2	83	84				
1	16	10	10	30	15.06	1	7.21	47.89
2	8	12	12	10	12.86	4	5.21	40.49
3	1	8	10	20	11.84	5	3.73	31.49
4	1	8	13	5	13.50	3	4.36	32.29
5	13	8	15	5	11.62	3	4.98	42.81
6	16	18	10	10	14.70	2	7.66	52.14
7	16	18	20	10	10.34	7	4.68	43.17
8	1	18	10	10	9.58	8	3.93	41.07
Sum	103	100	100	100	103			
maximum	16	18	20	30				
minimum	8	8	10	5				

The average response for Factor 1 i.e. Tangibles (average response 15.06/100) & Factor 6 i.e. Service Product (average response 14.7/100) are the maximum. This means that the patients are identifying an excellent Hospital with the Hospital that offers neat & hygienic conditions, proper physical facilities, equipments and other patient requirements like Ambulances, stretchers etc. along with dedicated, competent, trained & knowledgeable Doctors, nurses and other staff of the hospitals along with state of the art diagnostic equipments like MRI, CT Scan. In fact 38% (32/84) of the respondents have identified factor 1 as the most important (Table 2) and an overwhelming 43% (36/84) of the respondents have identified factor 6 as the most important

Table 2

Features	Most Important Factor					
	Responses (Maximum)				Least Important	
	1	2	83	84	Number	Percentage
1	1			1	32	38
2					26	31
3					9	11
4					24	29
5					14	17
6	6	6			36	43
7	7	7	7		16	19
8		8			9	11
					84	N. A.*

On the other hand, relatively, the least important factors are Factor 8 i.e. Service Delivery (average response 9.58/100) & Factor 7 i.e. Social Responsibility (average response 10.84/100). This means that the patients are not identifying an excellent Hospital with simplified procedures & processes, grievance procedures, & reasonable charges, equitable treatment, & extent to which it leads as a corporate citizen. 57% (48/84) of the respondents have identified service processes as the least important factor (Table 3), & 43% (36/84) of the respondents have identified social responsibility as the least important factor

Table 3

Features	Least Important Factor					
	Responses (Minimum)				Least Important	
	1	2	83	84	Number	Percentage
1			1		19	23
2	2				24	29
3		3	3		30	36
4		4		4	21	25
5		5		5	29	35
6			6		23	27
7					36	43
8			8		48	57
					84	N. A.*

The coefficient of variance (Table 1) shows that there is a wide variation (between 31 and 52) amongst the responses for all the eight factors. It means that the standard deviation is between 31% and 52% of it Arithmetic Mean.

We have therefore to exercise caution while interpreting the results of Part A. In conclusion, Part A only serves to identify the relative importance of the eight factors of Service Quality for Hospitals

Part B of the Questionnaire: Analysis of the individual 41 Statements

Table 4									
Individual statement (Average, Standard Deviation & t statistics)									
Part B comprising of 41 statement responses on Likert Scale									
Statements	Responses (Scale 1 - 7)					Average	std devn	t statistic	
Response	Model	1	2	83	84				
b1	1	4	6	6	6	6.27	1.00	23.88	
b2	2	7	6	6	4	6.7	1.02	13.11	
b3	3	5	7	7	5	5.68	1.53	13.05	
b4	4	3	7	4	5	5.85	1.09	15.49	
b5	5	7	6	5	6	6.01	1.02	13.01	
b6	6	3	6	6	4	5.86	1.15	14.77	
b7	7	3	7	5	6	5.80	1.53	13.79	
b8	8	7	6	5	4	5.93	1.21	14.60	
b9	1	7	7	4	5	6.60	0.75	31.87	
b10	2	7	7	6	6	6.7	0.89	22.33	
b11	3	7	6	7	5	5.98	1.09	13.67	
b12	4	7	7	7	5	5.94	1.02	17.40	
b13	5	3	7	6	4	5.95	1.07	13.65	
b14	6	3	4	5	5	6.33	0.96	22.25	
b15	7	3	2	5	6	5.49	1.74	7.84	
b16	0	5	5	5	5	5.64	1.20	12.56	
b17	1	3	7	6	5	5.94	1.03	17.20	
b18	2	7	7	4	5	6.05	1.19	15.75	
b19	3	3	6	6	6	6.29	0.83	25.25	
b20	4	7	7	3	6	6.02	1.23	15.06	
b21	5	3	7	6	4	5.70	1.24	12.59	
b22	6	4	7	4	5	6.02	1.26	14.71	
b23	7	5	6	5	4	5.80	1.14	14.47	
b24	8	3	7	6	6	5.94	1.01	17.61	
b25	1	3	7	6	4	6.7	1.03	13.32	
b26	2	5	3	6	5	5.30	1.50	7.95	
b27	3	7	7	5	5	5.63	1.30	11.53	
b28	4	7	7	7	7	6.08	1.09	17.53	
b29	5	7	6	7	5	5.85	1.20	14.12	
b30	6	3	6	7	5	5.62	1.28	11.60	
b31	7	3	6	6	6	5.80	1.12	14.76	
b32	8	7	7	5	7	5.74	1.35	11.76	
b33	1	3	7	5	5	6.25	0.93	22.18	
b34	2	5	7	6	6	6.58	0.76	31.00	
b35	6	3	7	5	6	6.52	0.77	33.12	
b36	4	5	7	6	5	6.29	1.02	23.21	
b37	1	3	5	6	5	5.93	1.16	15.25	
b38	0	7	6	4	6	5.67	1.29	11.02	
b39	1	3	7	5	7	5.88	1.25	12.28	
b40	6	7	7	6	5	6.08	0.95	27.17	
b41	6	7	5	5	5	6.33	0.85	25.01	

As could have been expected, the distribution of responses for desired expectations was skewed towards higher scores with all means ranging between '5.3 - 6.6' on a scale of '1 - 7'. The average for all the 41 statements has been obtained. From these, it can be observed that statements b9, b14, b19, b34, b35, b36 & b41 (Response questions) have the highest average scores. They relate to Hospital maintaining neat & hygienic conditions, providing modernized services like CT Scan, MRI Scan, providing prompt & timely service to patients, providing error free records / prescriptions & test reports, providing qualified & competent Doctors, willingness to take action during emergency & providing competent & dedicated team of nurses and supporting staff. The patient community regards them as important for Service Quality in Hospitals. These are the discriminating factors that characterize a good Hospital. It can be clearly observed that expectations are based on the differences that exist in current Hospitals. It is a major challenge for the Hospitals to provide in particular a competent team of Doctors, Nurses & supporting staff.

In addition, 'standard deviation' & 't statistic' for all the 41 statements have been obtained. The standard deviations for all the 41 statements are small (ranging between 0.75-1.74). This means that there is consistency in the 84 responses for all the 41 statements. This makes it possible for us to perform detailed statistical analysis on Part B of the questionnaire (unlike what was observed in Part A of the questionnaire which showed large variation in the responses). The 't statistic' values indicate that for all the 41 statements there is a significant difference

between the actual observed mean & the expected mean of '4'. This is an indication that for all the 41 statements, the difference between actual mean and expected mean value is significant. All the 41 statements can be regarded important for Service Quality in Hospitals.

Analysis of the Eight Factors

Factors	Responses 'Scale' (1-7)				Comparison of results with SFSS			
	SPSS	1	2	3	4	Mean	s.d	s.e
1 fctr1mn	6.82	6.67	5.43	5.29	6.12	0.65	0.07	29.59
2 fctr2mn	6.27	6.00	5.30	5.20	6.05	0.69	0.08	27.15
3 fctr3mn	6.25	6.63	5.25	5.25	6.09	0.72	0.09	27.65
4 fctr4mn	6.47	7.00	5.40	5.30	6.04	0.72	0.09	29.63
5 fctr5mn	6.67	6.63	5.20	4.75	6.09	0.72	0.09	27.19
6 fctr6mn	6.00	6.00	5.43	5.20	6.11	0.61	0.07	31.91
7 fctr7mn	6.75	6.25	5.25	5.50	6.72	0.99	0.11	19.00
8 fctr8mn	6.47	6.20	5.20	5.20	6.73	0.80	0.09	27.49
Overall fctr9mn	6.15	6.27	5.51	5.27	6.07	0.69	0.08	31.62

For each of the hypothesized eight factors (Tangibles, Reliability, Responsiveness, Assurance, Empathy, Service product, Social responsibility & Service Delivery), the 'mean', 'standard deviation' and 't statistic' has been calculated.

The mean values for all the eight factors are high (5.72-6.12 on a scale of 1-7). This is a clear indication that the hypothesized eight factors of Service Quality are important. The standard deviations for the eight factors are small, indicating consistency in the responses over the eight factors. Finally, for each of the eight factors the 't value' (16 – 31.91) is statistically significant. Therefore we conclude that each of the eight factors is individually significantly influencing Service Quality in Hospitals.

Also for the combined effect, the value for t is significant. We conclude that the joint influence of all the eight factors together (based on all the 41 statements) is statistically significant.

Correlation Analysis: There is a moderate degree to high degree of positive correlation (Karl Pearson's Correlation Coefficient values between 0.4 & 0.733) between the eight factors. This means that the factors are inter related & interdependent.

Correlation Table for correlation between 8 factors								
	fctr1mn	fctr2mn	fctr3mn	fctr4mn	fctr5mn	fctr6mn	fctr7mn	fctr8mn
fctr1mn	1.000							
fctr2mn	0.682	1.000						
fctr3mn	0.540	0.547	1.000					
fctr4mn	0.676	0.362	0.621	1.000				
fctr5mn	0.661	0.592	0.624	0.733	1.000			
fctr6mn	0.694	0.227	0.441	0.563	0.648	1.000		
fctr7mn	0.406	0.462	0.628	0.500	0.569	0.471	1.000	
fctr8mn	0.668	0.252	0.648	0.392	0.669	0.617	0.689	1.000

Factor Analysis: The dimensionality of Service Quality Model was examined using factor analysis based on the individual 41 statements of Part B of the questionnaire and the reliability of

the subsequent factor structures was then tested for internal consistency of the grouping of the items.

Kaiser – Meyer – Olkin measure of sampling adequacy index is 0.735, which indicates that factor analysis is appropriate for the given data set.

Bartlett's test of Sphericity chi-square statistics is 2099, which would mean the 41 statements are correlated and hence as concluded in KMO, factor analysis is appropriate for the given data set. Using Principal Component Analysis (PCA) extraction method with Varimax rotation, it can be observed that on the basic category level, 12 factors have been extracted which explains 73.96% of the total variance in the responses on Service Quality. Factor 12 is a single statement and is therefore dropped from the analysis. The remaining 11 extracted factors are labeled as: Assurance & Empathy, Competence & Tangibles, Innovativeness, Service Delivery, Ethics, Social Responsibility, Reliability, Responsiveness, Credibility, Core Services, & Service Content.

Factor	Factor Name (Variance Explained)	On Sr	Med Annu-ature 1	Variable Included in the factor	Loading	Kc	Cronbach
F1	Assurance & Empathy	5	3	Emp.oyees in ESH will be friendly ES will have standardized service processes ES will understand needs of patient ES will monitor hygiene conditions	0.790 0.627 0.627 0.620	5	0.312
F2	Competence & Tangibles	20	4	Emp.oyees in ESH will be trustworthy ES will insist on error free records ES will have sufficient number of equipment ES will have qualified doctors	0.555 0.813 0.718 0.620	3	0.763
F3	Innovativeness	30	3	ES will exhibit innovation in their services ES will provide services like home care, telemedicine	0.838 0.777	2	0.384
F4	Service Delivery	34	1	ES will have fast response as a priority ES will have effective procedures & processes	0.777 0.627	2	0.381
F5	Ethics	32	3	ES will ensure that feedback from patient will be used to improve service standards ES will promote ethical conduct	0.777 0.643	2	0.381
F6	Social Responsibility	15	7	ES will provide facilities & services at reasonable charges ES will enhance technological capability to serve patient	0.822 0.655	2	0.387
F7	Reliability	2	2	Emp.oyees of ESH will display the highest integrity Respect of Employee in ESH will influence in patient Emp.oyees in ESH will maintain a high patient when services will be performed When patient has an illness, ES will show a sincere interest in serving	0.670 0.827 0.641 0.494	4	0.504
F8	Responsiveness	13	5	ES will provide accessible employee at the front desk ES will always be willing to help the patients	0.777 0.727	2	0.422
F9	Credibility	18	2	ES will deliver the service at the first time & every time Emp.oyee in ES will give accurate & timely advice	0.627 0.636	2	0.362
F10	Core Services	41	3	ES will have effective team of staff ES will have accurate service everytime Emp.oyees in ESH will have sufficient knowledge	0.777 0.572 0.575	3	0.712
F11	Service Content	22	3	ES will provide a range of services ES will provide subsidised services like MRI Scan	0.776 0.775	2	0.302
F12	-	36	4	ES will have willingness of employees for each factor	0.577	-	-

Cronbach's alpha (for all 41 statements) = 0.9312
Statements with loading value less than 0.5 have been dropped

with loading greater than 0.5 have been considered for identifying the latent factors. It apparently appears that patient's expectations distinguish eleven service quality factors.

Cronbach's alpha (for all 41 statements) = 0.9312 which is very high, suggesting high internal reliability of the scales for the 41 statements of the questionnaire. On similar lines, Cronbach's alpha for the 11 extracted factors lie between 0.605 and 0.82 indicating medium to high internal reliability of the scales for each of these 11 factors.

Part C of the Questionnaire

Table 8	
Part C of the Questionnaire	
Factors considered most important	
Tangibles	48
Reliability	3
Responsiveness	10
Assurance	26
Empathy	16
Service Product	77
Social Responsibility	26
Service Delivery	4

The two most important factors emerging are Service Product & Tangibles. These results are in line with Part A & Part B of the questionnaire. It can be observed from the results that, there are no other emerging factors other than the factors hypothesized for the Service Quality Model. We conclude that the theoretical model is sufficient for Hospitals.

Theoretical & Research Conclusions: The Research findings are based on the factor analysis results that have been generated using SPSS software as mentioned above.

Practical Working Model for SQM-Hospital: A comparison of the extracted factors (tested & validated) with the theoretical factors (based on secondary research) reveals a close similarity between the two models. The following observations relate to the comparison of the two models based on factor analysis results in the order of 'Percentage Variance explained'.

Factor 1: The factor 'Assurance & Empathy' comprises of 5 statements and explains 9.293% of the variance. Cronbach's alpha value is 0.818, which means high internal reliability of the scales. It emphasizes on (i) resolving amicably patient's problem, (ii) minimum service delivery time, (iii) understanding specific needs of patients, (iv) maintaining neat & hygienic conditions, (v) honest & trustworthy employees.

Factor 2: The factor 'Competence & Tangibles' comprises of 3 statements and explains 7.4% of the variance. Cronbach's alpha value is 0.769, which means high internal reliability of the scales. It emphasizes on (i) providing error free records, prescriptions and reports, (ii) providing sufficient number of equipments like ventilators, pace makers, (iii) providing qualified & competent Doctors.

Factor 3: The factor 'Innovativeness' comprises of 2 statements and explains 6.66% of the variance. Cronbach's alpha value is 0.684, which means moderate internal reliability of the scales. It emphasizes on (i) innovating activities like tracking patient databases, (ii) providing home services like sample collection for test.

Factor 4: The factor 'Service Delivery' comprises of 2 statements and explains 6.536% of the variance. Cronbach's alpha value is 0.678, which means moderate internal reliability of the scales. It emphasizes on (i) housekeeping as a priority & of high order, (ii) effective grievances procedures & processes.

Factor 5: The factor 'Ethics' comprises of 2 statements and explains 6.343% of the variance. Cronbach's alpha value is 0.691, which means high internal reliability of the scales. It emphasizes on (i) feedback from patients to improve service standards, (ii) promoting ethical conduct.

Factor 6: The factor 'Social Responsibility' comprises of 2 statements and explains 6.091% of the variance. Cronbach's alpha value is 0.637, which means moderate internal reliability of the scales. It emphasizes on (i) providing facilities & services at reasonable charges, (ii) enhancing human & technological capability to serve patients.

Factor 7: The factor 'Reliability' comprises of 4 statements and explains 5.972% of the variance. Cronbach's alpha value is 0.634, which means moderate internal reliability of the scales. It emphasizes on (i) displaying a positive moment of truth, (ii) instilling confidence in patients, (iii) communicating exact duration of test reports & operations, (iv) showing sincere interest in solving patients problems.

Factor 8: The factor 'Responsiveness' comprises of 2 statements and explains 5.745% of the variance. Cronbach's alpha value is 0.748, which means high internal reliability of the scales. It emphasizes on (i) providing hospitable employee at the front desk, (ii) willingness of employees to help patients.

Factor 9: The factor 'Credibility' comprises of 2 statements and explains 5.721% of the variance. Cronbach's alpha value is 0.668, which means moderate internal reliability of the scales. It emphasizes on (i) delivering service right the first time & every time, (ii) giving prompt & timely service to patients.

Factor 10: The factor 'Core Services' comprises of 3 statements and explains 5.697% of the variance. Cronbach's alpha value is 0.718, which means high internal reliability of the scales. It emphasizes on (i) providing dedicated & competent team of nurses, (ii) giving adequate service every time, (iii) providing knowledgeable & competent employees to answer patient's queries.

Factor 11: The factor 'Service Content' comprises of 2 statements and explains 5.235% of the variance. Cronbach's alpha value is 0.605, which means moderate internal reliability of the scales. It emphasizes on (i) providing range of services like hospital pharmacy, proper diagnostic facilities, (ii) providing modernized services like CT Scan & MRI Scan.

Concluding Comments: The paper tries to explain important factors for patient satisfaction for Hospitals. All the factors are important for the patient but to retain and acquire patients what is important are discriminating factors. Today the patients are losing confidence in some hospitals because of poor medical treatment, unnecessary test prescribed by the doctors & negligence of hospital staff. It becomes imperative for the service provider in Hospitals to lay greater emphasis on "patient touch" quality management rather than 'high tech process touch' quality management.

As emphasized earlier, the management should focus on the discriminating factors. They relate to the following:

1. Hospital maintaining neat & hygienic conditions; because the patients have contagious diseases. It is extremely important that hospital management give utmost importance to cleanliness & hygiene.
2. Providing modernized services like CT Scan, MRI Scan; because of the complexity in the diagnosis of patients particularly before operations and other complex treatment.
3. Providing prompt & timely service to patients; because of the discomfort the patient experience during recovery, there is always a solace & comfort feeling by the patient when he is attended by the hospital staff.
4. Providing error free records / prescriptions & test reports; which are very important both for diagnosis of treatment and recovery from ailments. The implications of improper test reports & prescriptions could be dangerous for the patients.
5. Providing qualified & competent Doctors; this is at the heart of patient recovery. It is common knowledge that competent Doctors make the most complex of ailments look trivial and easy curable. This is the reason that many decisions on hospital selection is taken on the basis of the available panel of Competent Doctors.
6. Providing staff that is willing to take action during emergency; because the time factor is critical in many situations of recovery. Hospitals that have competent & knowledgeable staff to act under emergency conditions are rated high by the patients.
7. Providing competent & dedicated team of nurses and supporting staff; because nurses & supporting staff spend the maximum time with the patients. They are the lifelines for the patients. Their recovery from ailments does depend heavily on the services made available from nurses and supporting staff.

The patient community regards them as important for Service Quality in Hospitals. These are the discriminating factors that characterize a good Hospital. The working model along with the original model obtained using secondary research for SQM-Hospital is given in Table 9. Comparing them, we can observe that there is a close similarity between the hypothesized model and the emerging model based on factor analysis. We can conclude that the hypothesized model for Service Quality based on secondary research is adequate for Hospitals.

Table 9

Service Quality in Hospitals Factor Analysis Summary Results			
Comparison of SQM Dimensions (in order of Factor Analysis)			
SQM Dimensions generated specifically for Hospitals from Factor Analysis		SQM Dimension based on Secondary Research for General Service Sector	
Factor 1	Assurance & Empathy	Factor 4	Assurance
		Factor 5	Empathy
Factor 2	Competence & Tangibles	Factor 1	Tangibles
Factor 3	Innovativeness	-	-
Factor 4	Service Delivery	Factor 8	Service Delivery
Factor 5	Ethics	-	-
Factor 6	Social Responsibility	Factor 7	Social Responsibility
Factor 7	Reliability	Factor 2	Reliability
Factor 8	Responsiveness	Factor 3	Responsiveness
Factor 9	Credibility	-	-
Factor 10	Core Services	Factor 6	Service Product
Factor 11	Service Content	Factor 6	Service Product

The Implications of this Study: (i) This study has unearthed critical constituents of Service Quality from Patient point of view. It has advanced a framework for better understanding of ‘Service Quality’. (ii) The study is an attempt to stimulate the service quality revolution that is taking place at a phenomenal pace. The study relates to developing a model that could form the foundation for patient perceived Service Quality. (iii) Measuring service quality is a very complex task because of the peculiarities embodied in the service product itself. The study has made an attempt to measure Service Quality from patient’s point of view (SQM), by identifying the dominant factors in the Quality Management Practices for Service Industries and developing an instrument (Questionnaire) to quantify these factors. This is essential because quality does not improve unless it is measured. The model will help the service provider to know how the patient would assess the service. This would automatically result in achieving greater level of success in imparting Quality Services. (iv)The proposed Service Quality Model provides the service sector with a diagnostic tool to evaluate and control the Service Quality from the patient satisfaction perspective. In order to manage a service effectively, its main quality factors need to be evaluated.(v) The dimensions (factors) identified in the model provide a holistic framework for SQM implementation in service organizations. It portrays the relationships between the various dimensions in order to help researchers and practitioners in understanding the intricacies of the dimensions in the service ambience. There are number of factors that are an intricate part of the service quality. However, it is very difficult to study them separately as they are inter-related and there is a very thin line separating the factors. This model goes a long way in helping researchers and practitioners to look at the factors separately and study them. (vi) The study stresses on the fact that it is not only important just to identify the dimensions but also to quantify them so that service quality is measurable. This is because unless something is quantified, it is very difficult to identify which dimension is more important than the other and the degree of importance that separates the different dimensions. If all the dimensions were of equal importance then there would not be any need to study them separately. (vii) The model when applied can help in systemizing, standardizing and streamlining the service delivery process. It is beneficial for a company or institution to compare (benchmark) its service process with the best in the industry (industry norms) and also with what the customers need. Thus by a careful examination of this model the company or institution service provider can make relevant changes in its processes that can go a long way in streamlining and standardizing its processes to make them comparable or even better than the general industry standards.

The limitations of the study: (i) The basic theme of the Service Quality Model addresses the quality issues of the service sector as a whole. However, the study has been confined to only one sector of Hospital due to time constraints and practical difficulties. (ii) The population being studied involves an ongoing process that makes listing or counting every element in the population impossible. A strictly random selection procedure cannot be used because full listing of the population is impossible. The respondents for the study have been obtained as per convenience of availability. Therefore the sample drawn is not a truly random sample. However, care has

been exercised to select the respondents independently and thus avoid a selection bias as far as possible. (iii) The SQM model is based on patient's expectations of an excellent service organization on the basis of a conventional scale. These expectations are not necessarily predictable & robust. In an ongoing business of monitoring and improving service quality, one must assess simultaneously expectations and perceptions to obtain the gaps in service quality. (iv) The study has been conducted predominantly in just one city of the country and the results of the same, if conducted in some other part of the country may vary. This is because the perceptions and needs of the patients may be different in different areas of the country. It is because a country like India has culturally and economically very diverse areas. The level of education, the different cultures and the economic disparity leads to different perceptions among the patients. The difference is too significant to be ignored. (v) The study has been conducted in India and the same study if done in some other economy may throw up other factors and dimensions of varying degree of importance. This is because a country like USA or a European country has a population whose perceptions have developed over a period of time by the kind of opportunities, resources and services, which they are accustomed to and consider as a regular feature of service. For the Indian population the same features may be a new experience. What may be considered a luxury in India can be considered a necessity in those countries? Thus whether this model can be used in those economies is another pertinent question. (vi) Some of the responses that were generated were not spontaneous responses because the instrument had been given to the respondents and they had time to think and fill the questionnaires. Face to face interviews were not possible due to practical constraints. It is believed that spontaneous responses are very close to the truth although a lot depends on the skill of question design. Respondents with time to think do tend to answer the questions diplomatically. Thus the fact that some responses, although a small number, may not be completely true cannot be ignored.

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