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An Empirical Investigation of service Quality gap at Super speciality Hospitals in Bangalore,India

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Abstract:

Service quality has increasingly been the subject of research in recent years. Parasuraman, Zeithaml, and Berry presented and tested a generic model SERVQUAL to measure the perceived quality of a service. James Carman adapted and applied this instrument for use in the hospital industry. In this study, we use the instrument developed by Carman to collect data from the hospitals in Bangalore. The purpose of the study is to examine the important criteria for measuring service quality in the health care industry in Bangalore. The relationship between customer satisfaction and serqual measures are investigated for this purpose. In our study customer satisfaction measured by three criteria by asking customers; their future purchase intention, how they evaluate overall service quality and how they see overall quality of the hospital. Service quality was measured by the difference between perceived service and expected service and rated on a seven point Likert scale. Serqual measures consist of 6 criteria; tangibility, reliability, responsiveness, assurance, courtesy, and empathy. The techniques of factor analysis and the logistic regression models are used to investigate the relationships. Like the linear regression analysis, most of the usual statistical methods assume that the residuals, or errors, must follow a normal distribution. If they are not the methods should not be used. Unlike ordinary linear regression, logistic regression does not assume that the dependent variable or the error terms are distributed normally. Also, it doesn't assume that the relationship between the independent variables and the dependent variable is linear. Logistic regression is a variation of ordinary regression which is used when the dependent variable is a categorical variable. The results of our analysis confirm that while tangibility, reliability, courtesy, and empathy are significant for customer satisfaction, responsiveness and assurance are not.

Keywords: service quality, customer satisfaction, health care

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INTRODUCTION

In current changing scenario, both manufacturing and service organisations are facing with a vital business challenge, survival, and success in a turbulent and gradually competitive environment. The focus of both manufacturing and service organisation should be on before and after sales services and not just on the products' attributes and Services.

Developed countries are predominant with the service industries whereas the services sector is the fastest growing industry in emerging countries, and the importance of service continues to increase for the economy. Due to phenomenal growth of the service sector in modern society, the importance of service management and service quality is also expected to increase. The role of service quality is widely recognized as being a critical determinant for the success and survival of an organization in today's competitive environment. Any decline in customer satisfaction due to poor service quality would be a matter of concern. Consumers are becoming more aware of rising standards in service, prompted by competitive trends, which have developed higher expectations

Recently the service industry has become one of the fastest growing industry and health care industry been the important one. Most hospitals provide the same type of service and benefits but still each has a different level in quality of service

Hospitals must strive for zero defection to achieve excellence in their services, which in turn help them in retaining their customer and gaining profits. Continuous efforts will improve the quality in service delivery and doing away with all defects.

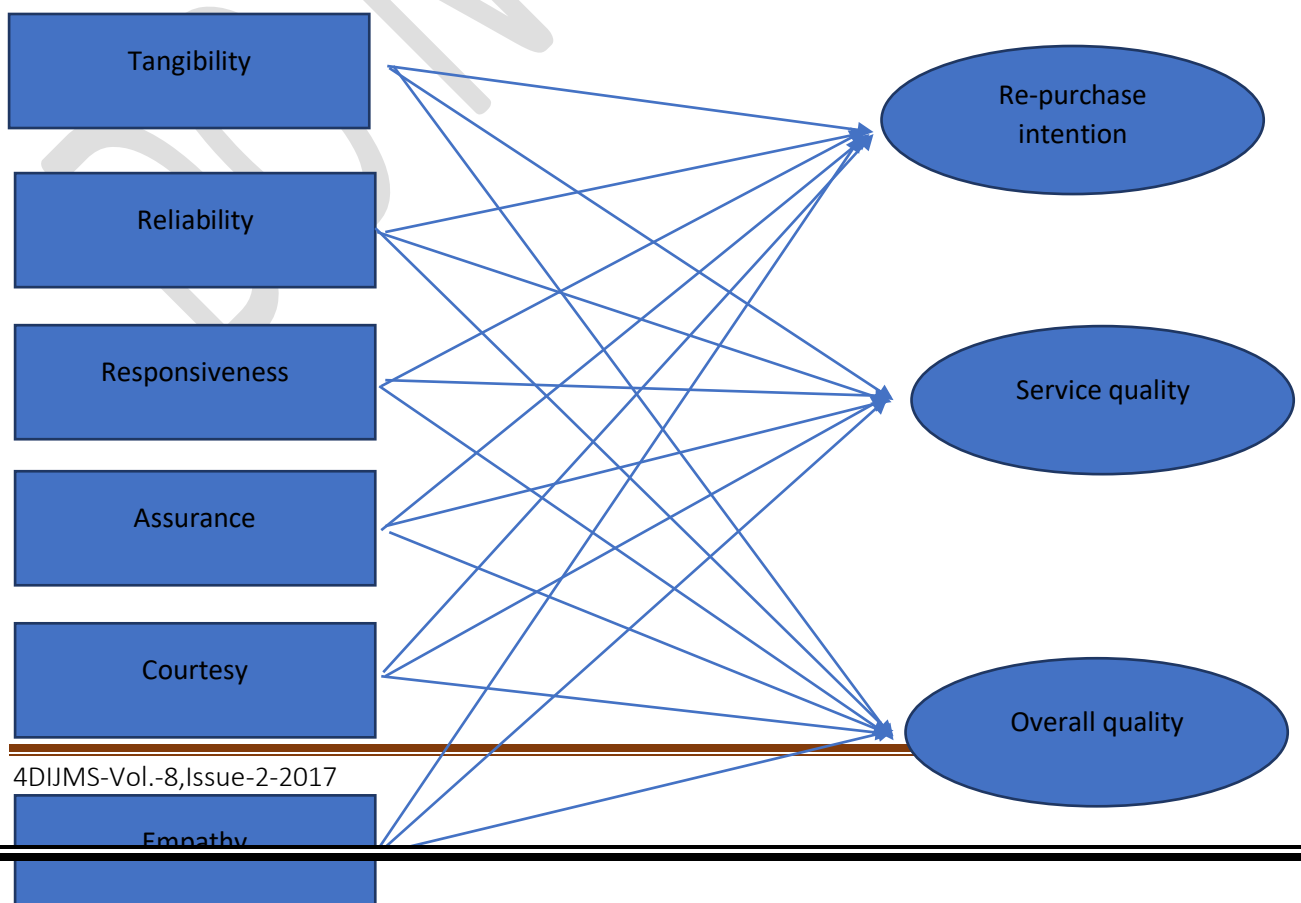
The reason for the present study is to pick up a superior comprehension of the sequel elements, which decide buyers' view of service quality, and to look at the causal connection between service quality and purchaser fulfilment in five healthcare facilities in Bangalore

All service associations attempt and give the most ideal and amazing services to their clients yet at the same time they all the time miss the mark concerning the clients' desires since the clients have turned out to be more mindful of their prerequisites and request higher principles of services. Their discernments and desires are ceaselessly advancing, making it troublesome for the specialist co-ops to quantify and deal with the services viably. The idea of service quality has been investigated by numerous analysts yet because of its slippery, ill defined, and dynamic nature it had been hard to delimit and measure it. Subsequently, just a modest bunch of analysts have operationalized the idea like Gronroos in 1984, Parasuraman, Zeithaml and Berry in 1988, Dark colored and Swartz in 1989, Carman in 1990 and Cronin and Taylor in 1992. Service quality in its easiest frame is a result of the exertion that each individual from the association puts resources into fulfilling its clients. It likewise alludes to the conveyance of astounding or better services relative than client desires. Zeithaml et al in 1988 characterized service quality as the degree and course of disparity between customers' recognitions and desires as far as various yet moderately vital measurements of service quality, which can influence their future conduct. Parasuraman, Zeithaml and Berry's (1988) conceptualization of five measurements: tangibles, reliability, responsiveness, assurance, and

empathy, in the long run prompted the advancement of SERVQUAL, a model for measuring service quality..

LITERATURE REVIEW

Significant amount of attention has been given to service quality both by practitioners and researchers. Service Quality is defined in various ways. Hence, there is no universally accepted or standard definition of quality. Different definitions of quality are summarised by Reeves and Bednar (1994) as follows: (a) quality as excellence, (b) quality as value, (c) quality as conformance to specification, and (d) quality as meeting or exceeding customer's expectations. The significant growth in the general field of service marketing is because of the interest shown to maintain the quality of the services. The study on service quality is mainly focused on the customer's perception of quality. Therefore, service quality is often viewed as a comparison with actual performance perceptions and service expectations at the operational level, and is dominated by service quality research with help of the SERVQUAL instrument, which is based on a so-called gap model. Gap model is recognized as a major contribution for SERVQUAL which is designed by Parasuraman, Zeithaml, and Berry to measure service quality as perceived by the customer. Parasuraman et al.'s measure of service quality was based on Oliver's disconfirmation model. In the disconfirmation theory, the perception of service quality is conceptualized as a comparison of the expected level of service and the actual service performance. Expectations are the wants of consumers, that is, what they feel a service provider should offer. Perceptions refer to the consumers' evaluation of the service provider. Therefore, if the customer's performance perceptions exceed the customer expectations, then the service provider provides quality service. The difference in scores determines the level of service quality.



SERVQUAL is a service quality assessment tool. A 22-question (item) scale measuring five basic dimensions was developed: **Tangibles:** The appearance of the physical facilities, equipment, communication material and personnel. **Reliability:** The ability to perform a promised service dependably and accurately. **Responsiveness:** The willingness to help customers and to provide prompt services. **Assurance:** The knowledge and courtesy of employees and their ability to inspire trust and confidence in the customers. **Empathy:** The caring, individualized attention a firm provides its customers.

METHODOLOGY

The sample

Data for this study was gathered using a questionnaire that was distributed to 80 patients in 4 hospitals in Bangalore. 53 useable questionnaires were returned giving a response rate of 66 percent, which was considered satisfactory for analysis. The same patients answered two separate questionnaires which was developed; one measuring the general expectations of the in-patients who is undergoing treatment at the hospital and the second one for measuring the perceptions of them related to the service quality performance of the hospital. Seven Point Likert scale was used to rate each item in the questionnaire. In the questionnaire number 1 was used with the verbal statement “Strongly Disagree” and number 7 was used with the verbal statement “Strongly Agree”.

ANALYSIS AND RESULTS

The initial step in the evaluation of service quality was the calculation of the gap score. The method of deciding the significant importance of service attributes was to measure the expectations of customers or standards and calculate the gap between the actual and expected service.

Gap score = Perception score (P) – Expectation score (E)

The Gap Score was calculated by factor analysis using SPSS, based on weighted average for each of the service quality measures. From the first 9 questions factor tangibility was extracted, from the next 5 questions reliability, from next 8 questions responsiveness, from question 23 to 27 assurance, from question 28 to 32 courtesy and from question 33 and 34 empathy was derived. Sat 1 measures the Customer satisfaction; Sat2 measures future purchase behaviour; and Sat3 measures the overall service quality. The overall quality of the hospital was rated on a seven point Likert scale with strongly disagreed at 1; and strongly agree at 7.

Here, we investigated that SERVQUAL was important to measure customer satisfaction with the usage of logistic regression analysis. For the investigation of relationship regression analysis is a statistical tool. Similar to linear regression analysis, the usual statistical methods

are assumed to be residuals, or errors, which should follow the normal distribution. Contrasting to the ordinary linear regression, logistic regression does not assume that the dependent variable or the error terms are distributed normally. Likewise, it is not assumed that the relationship between the dependent variables and the independent variable is linear. Logistic regression can be understood as a variation of ordinary regression which is used when the dependent variable is a categorical variable.

Odds Ratios (O.R.) related to each predictor value is the result got by Logistic regression. The probability of the outcome event occurring divided by the probability of the event not occurring is called “odds of an event”. The odds ratio for a predictor is defined as the relative amount by which the odds of the outcome increase (O.R. greater than 1.0) or decrease (O.R. less than 1.0) when 1.0 units increase the value of the predictor variable.

Table 1: logistic regression results

	Sat1				Sat2				Sat3			
	Coef	Std.Err.	ODD R	%	Coef	Std.Err.	ODD R	%	Coef	Std.Err.	ODD R	%
tangibility	0.17	0.17	1.18	18	0.21	0.17	1.24	24	0.56*	0.17	1.75	75
reliability	0.2	0.2	1.22	22	0.12	0.2	1.12	12	0.41*	0.19	1.51	51
responsiveness	0.26	0.28	1.29	29	0.36	0.28	1.43	43	-0.07	0.26	0.94	-6
assurance	0.19	0.22	1.2	20	0.17	0.22	1.18	18	-0.27	0.21	0.76	-24
courtesy	0.49*	0.25	1.63	63	0.38	0.24	1.47	47	0.83*	0.25	2.29	129
empathy	0.36	0.22	1.43	43	0.44*	0.21	1.55	55	0.21	0.2	1.23	23
Number of obs = 53	LR chi2(6) = 98.94 Prob> chi2 = 0.0000 Pseudo R2 = 0.1504 Log likelihood = -279.44				LR chi2(6) = 101.85 Prob> chi2 = 0.0000 Pseudo R2 = 0.1510 Log likelihood = -286.27				LR chi2(6) = 100.84 Prob> chi2 = 0.0000 Pseudo R2 = 0.1428 Log likelihood = -302.68			

*; significant at 5% level

%; percent change in odds for unit increase in X

Ordinal logistic regression was applied in the study with dependent variables; sat1, sat 2 and sat3 and independent variables; SERQUAL factors. From the table, we notice that 53 observations were used in the analysis. The likelihood ratio chi-squares of three analysis with the p-values of 0.0000 tells that the model is statistically noteworthy, when compared to model with no predictors. In the table, we see the coefficients of SERQUAL factors, their standard errors, odds ratios and % columns which show the percent change in odds for unit increase in SERQUAL factors.

The statistically significant SERQUAL factors at 5 % level of significance are courtesy for sat1, empathy for sat2 and tangibility, reliability, and courtesy for sat3. The

estimates in the output are given in units of ordered logits, or ordered log odds. So, for courtesy, we would say that for one unit increase in courtesy (i.e., going from 1 to 2), we expect a 0.49 increase in the log odds of sat1, given all of the other variables in the model are held constant. For one unit increase in empathy we expect a 0.44 increase in the log odds of sat2, and for one unit of increase in tangibility, reliability and courtesy, we expect 0,56, 0,41 and 0,83 increases in the log odds of sat3 respectively, given all of the other variables in the model are held constant.

We would interpret odds ratios or percentage column instead of coefficients. For, courtesy we would say that for one unit increase in courtesy, (i.e., going from 1 to 2), the odds of “strongly agree” for future purchase (sat1=7) versus the combined scales (sat1=1,2...,6) is 1,63 greater (%63 increase in the odds for unit increase in courtesy), given that all of the other variables in the model are held constant. For, empathy we would say that for one unit increase in empathy, (i.e., going from 1 to 2), the odds of “strongly agree” for overall service quality (sat2=7) versus the combined scales (sat2=1,2...,6) is 1,55 greater (%55 increase in the odds), given that all of the other variables in the model are held constant. Similarly, one unit increase in tangibility, reliability, or courtesy the odds of “strongly agree” for overall satisfaction (sat3=7) versus the combined scales (sat3=1,2...,6) are 1,75, 1,51 and 2,29 greater respectively (%75, %51, %129 increase in the odds), given that all of the other variables in the model are held constant

CONCLUSION AND THE MANAGERIAL IMPLICATION:

Here , we studied the relationship between customer satisfaction and service quality in the hospital industry at Bangalore. Thetechnique used was ordinal logistic regression, for testing the framework of relationship among the variables.

The analysis of the result gives substantial support for the multi-dimensional view for the construct. We used the instrument designed by Parasuraman *et.al.*, we observed that the dimensions used by us differed to some level from those found by Parasuraman *et.al.* For instance, tangibility, reliability, courtesy, and empathy were important criteria for customer satisfaction in the study, the responsiveness, and assurance factors were not acknowledged as direct elements of service quality.

One of the most important measure that the health care industry must develop is a better understanding of the significant scope instituting the quality of health care and the effective method taken to improve them further. There is a gap among scholars in understanding the service quality. Furthermore, there is significant disagreement among the existing scales related to what is measured and how it measures the service quality. The study was undertaken to understand the important standards needed to measure the service quality in the health care industry in Bangalore. In order to deliver a high-quality service and get high customer satisfaction, we believe that a strong managerial positioning should be introduced in the hospitals. Unfortunately, our experiences suggest that most hospitals in Bangalore have not introduced the modern managerial practices. This can be attributed partially with the fact that the control of hospital management remains in the hands who are trained mainly to heal the stricken, and are not capable enough to manage and administer the operations of the hospitals. The moment when physicians would stop competing for administrative positions and leave this position to the managers who have enough managerial skill and talent, the service quality of Bangalore hospitals will increase.

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