SERVQUAL impact on overall satisfaction and brand loyalty: an empirical study in Delhi-NCR hospitals

Bhawna Singh* and Rushina Singhi

Amity Business School,
Amity University,
Noida, Uttar Pradesh, 201313, India
Email: Bhawna.singh1707@gmail.com
Email: rsinghi@amity.edu
*Corresponding author

Abstract: This paper analyses the impact of SERVQUAL on overall satisfaction and brand loyalty in the healthcare industry. SERVQUAL is a standard instrument consisting of five dimensions namely reliability, empathy, responsiveness, tangibility and assurance for measuring functional service quality. The study has been initiated by conducting a survey of various hospitals of Delhi NCR. A conceptual model is designed and confirmatory test of the model is done by using the confirmatory factor analysis technique. Structural equation modelling (SEM) using AMOS 4.0, a software program is used to analyse the causal relationship between SERVQUAL, overall satisfaction and brand loyalty. The outcome arrives that SERVQUAL has a positive effect on overall satisfaction and overall satisfaction also has a positive effect on brand loyalty.

Keywords: service quality; overall satisfaction; brand loyalty; SERVQUAL.

Biographical notes: Bhawna Singh is a research scholar at the Amity Business School, Amity University, Noida.

Rushina Singhi is an Assistant Professor at the Amity Business School, Amity University, Noida.

1   Introduction

Services in normal terms can be defined as any event that is produced to meet the ultimate need of the customer. The greater the quality of services, the greater will be the customer satisfaction, thus in turn the greater will be the trust of the customer towards the organisation and ultimately increase in the profitability and market share of the organisation (Bilisik, 2013). Thus, with the rapid development in the service industry, providing the superior level of quality of services to the customer is the cornerstone of a successful service industry. Innovative and different marketing strategies are implemented to expand the services to meet the expectations versus perception of the

customers. Due to the growing business and increasing competition, customer satisfaction is the success key to sustain in the market in the long-run, thereby increasing the profitability (Gustafsson et al., 1999). Several studies have been done on customer satisfaction and service quality but still, it attracts the researchers to study the wide varieties of the disciplines. Increasing the investment in training for improving the service quality can strengthen the quality of services thus promoting the safety of patients (Cambra-Fierro et al., 2011). In the current scenario, continuous up-gradation of quality services is important and this can be achieved by continuous up-gradation of their technology and infrastructure (Pahuja and Vohra, 2012).

In the healthcare industry, to study the gap between the customer's perception and expectation, SERVQUAL model by Parasuraman et al. (1985, 1988) is the best to understand this gap. The SERVQUAL model consists mainly of five dimensions: empathy, responsiveness, tangibility, assurance and reliability (Tseng, 2011).

> "Reliability refers to the ability to perform the promised service dependably and accurately. Responsiveness reflects the willingness to help customers and provide prompt service. Assurance reflects the knowledge of employees and their ability to inspire trust and confidence. Courtesy refers to the kind behaviour of employees to the customer. Empathy refers to caring individualised attention the firm provides to its customer." (Parasuraman et al., 1988)

SERVQUAL helps in identifying the difference between the customer's preferences and what they experience and specifying the gaps in the areas which need improvement. The analysis of service quality helps the organisation to use the financial resources in the areas which require improvement and influence the perception of the customer towards the service quality. A questionnaire has been designed to measure the customer's perception and expectation of a service provided by the organisation. The gap in service quality is being calculated by comparing the perception score with that of expectation score. The positive score indicates that customer's expectations have been met or exceeded and the negative score indicates the opposite of positive score (Ramez, 2012).

SERVQUAL and satisfaction both can be utilised interchangeably as they both evaluate variables and take care of the customer's perception towards the given service or product (Chen, 2008).

Healthcare service quality is broadly classified into two categories: technical quality and functional quality. "Technical quality refers to the technicalities relating to medical diagnosis and procedures or confirmation to professional specifications whereas the functional quality of service is defined as how the healthcare service is delivered" (Chakraborty, 2013).

For the success of any service organisation, both functional and technical qualities are the major components. Technical quality is defined as the technical accuracy of the procedures and services. Many techniques have been proposed and used in many healthcare organisations. Functional quality, on the other hand, defines as the way with which services are being delivered to the customers (Bopp, 1990).

However, the model faced many criticisms regarding the measures and dimensions considered in this but still, it proves to be the best model and it has shown the result which proves its compatibility with the requirements of the service industry. Not only in

healthcare industry, this model has also shown tremendous results in other service industries like airlines, automobiles, etc.

In the service sector, the studies did earlier focus only on patient satisfaction and quality of services (e.g., Parasuraman et al., 1985). Some studies also have been done to identify the relationship between the level of customer's satisfaction with that of functional and technical quality dimensions. But no study investigated how interaction, infrastructure and atmosphere can also impact the overall satisfaction and expectations of the patient with respect to quality.

For any organisation, brand building is very important for long-term existence in the market. Brand loyalty depends upon the satisfaction level of the patients from the services being provided by the hospitals. The greater the satisfaction level of the patients the greater will be the trust generation towards the hospital. Word of mouth is one of the fastest ways of communication in spreading any message in the market. If the patient is satisfied then he will tend to share his experience with people associated with him regarding the services and in today's scenario, people tend to rely more on word of mouth regardless of the digital marketing done by the hospital, especially if it is experienced by their close relatives or friends.

2 Literature review

Nowadays, service quality is significantly becoming important with its relationship to customer satisfaction, costs, customer retention, profitability and service guarantee. Berry (1991) defined service quality as "conformance to customer specifications" – that is, it is the customer's definition of quality that matters not that of management. Patients are feeling discomfort by the type of services they are receiving from the hospitals and it has been observed that people are becoming more concerned about their health and type of healthcare services they are getting and thus raising their demands for better services (Sharmila and Krishnan, 2013).

Many researchers have described the definition of quality in different ways. Reeves and Bednar (1994) defined quality in different ways as:

a   quality as meeting or exceeding customer's expectations

b   quality as value

c   quality as conformance to specification

d   quality as excellence.

The marketing field of general services is significantly growing as it is influenced by the increasing interest of patients in service quality. The studies completed in the field of service quality focus largely on the patients' perception of quality services (Zaim et al., 2010).

There is difference arising between the expectations and perception of perceived patient services. Various models were designed to study the difference. SERVQUAL method is one of them (Punnakitikashem et al., 2012). SERVQUAL helps to study the

difference between what patients expect and what they experience and helps the management to work on those loose areas for improvement (Kumar et al., 2012). The model explains that performance is equivalent to quality and does not include the expectations. The idea behind this SERVQUAL is that service cannot be measured as it is just the experience (Zarei, 2012). The five major determinants of SERVQUAL model were empathy, responsiveness, tangibles, reliability and assurance. Besides having so many advantages of this model, it faces much criticism but it abides as a very important and useful method for studying the service quality (Calisir, 2012). Many researchers like Babakus and Mangold (1992) argued and proved that it is the useful instrument in measuring the service quality and gave the conclusion that "SERVQUAL, a standard instrument for measuring functional service quality, is reliable and valid in the hospital environment and in a variety of other service industries".

Service quality affects not only the customer but also the organisation in the following ways:

1   It impacts the loyalty of the customer – loyalty is experienced when the service quality perceived by the customers exceeds their perception. If the organisation wants to experience the customer loyalty in the long-run then how the service quality is delivered to the customer must be properly monitored.

2   It creates competitive advantage and associates the successful organisations – many organisations make and sell similar kinds of products but how they deliver their service differentiates them from others.

3   It helps in building a relationship with the customers – by providing good services it helps the organisation in building trust and relationship with the customers.

4   It helps in building profitability – increase in service quality will lead to increase in customer satisfaction thus helps in retention of the customer in the long-run, in turn, increasing the profitability and reduction in costs (Sangode, 2011).

In today's scenario, the main concern of the organisations is to understand, build and maintain quality. Efforts are being done to provide the best services to increase the overall customer satisfaction thus keeping up the customers' expectations (Nagar, 2013).

Debates have been conducted whether a customer who is satisfied with the quality of the services will surely exhibit loyalty towards the brand. Customer loyalty is basically considered as a complex and multifaceted construct and it is repeated purchasing behaviour of the customer that makes him lean towards the brand (Szymansk and Henard, 2001).

3   Research objective

The objective of the research is to find out the effect of five dimensions of SERVQUAL model of service quality, i.e., reliability, empathy, responsiveness, tangibility and assurance on overall patient satisfaction and in turn patient's loyalty towards the brand.

The hypotheses are created as follows:

H1   SERVQUAL has positive effect on overall satisfaction.

H2   Overall satisfaction has positive effect on brand loyalty.

4 Research design

The research design is descriptive and inferential. It has been observed that in previous studies, perception of patients towards healthcare service quality and its linkage with overall satisfaction and loyalty is hardly studied. Nominal variables like gender, location and educational qualification have been used to study. This gives an opportunity to link the perception of health service quality with overall satisfaction and brand loyalty in this study.

4.1 Sampling design

Various hospitals from Delhi-NCR have been listed out where the survey has been conducted to collect the information. The basic idea is to know the gap between the perception of the patients staying there and experiencing the services matches with the one which they have expected as this will have a great impact on their overall satisfaction and thus loyalty towards the brand.

4.2 Data collection

A sample of 328 patients has been taken. A questionnaire has been designed covering the questions on five dimensions of SERVQUAL, overall satisfaction and brand loyalty. The survey has been conducted in the private hospitals of Delhi and NCR. Data collectors used the systematic random sampling procedure to select the respondents.

4.3 Survey instrument

The survey instrument has been designed in the form of a questionnaire based on the five dimensions of SERVQUAL, overall satisfaction and brand loyalty. A set of 24 questions has been framed evaluating each dimension of SERVQUAL, overall satisfaction and brand loyalty on the Likert scale ranging from 1 (mostly liked) to 7 (not liked). For tangibility seven questions, for responsiveness five questions, for empathy two questions, for assurance three questions, for reliability three questions, for overall satisfaction two questions and for brand loyalty two questions have been designed to understand the impact of SERVQUAL on overall satisfaction and thus overall satisfaction on brand loyalty.

4.4 Research methodology

A questionnaire has been prepared and based on that a survey of 328 patients has been done to understand the effect of all the dimensions of SERVQUAL model on overall patient satisfaction. Structural equation modelling (SEM) technique is used to test the validity of the model that are path analytic with mediating variables and it also includes latent variables (Scardina, 1994) and it is also helpful in identifying the causal relationship between categorical variables (Bollen, 1989). A conceptual model is also designed to understand the relationship between the SERVQUAL factors with overall satisfaction and brand loyalty. Model fit has been done by using the confirmatory factor analysis technique (CFA).

Figure 1   Conceptual model (see online version for colours)
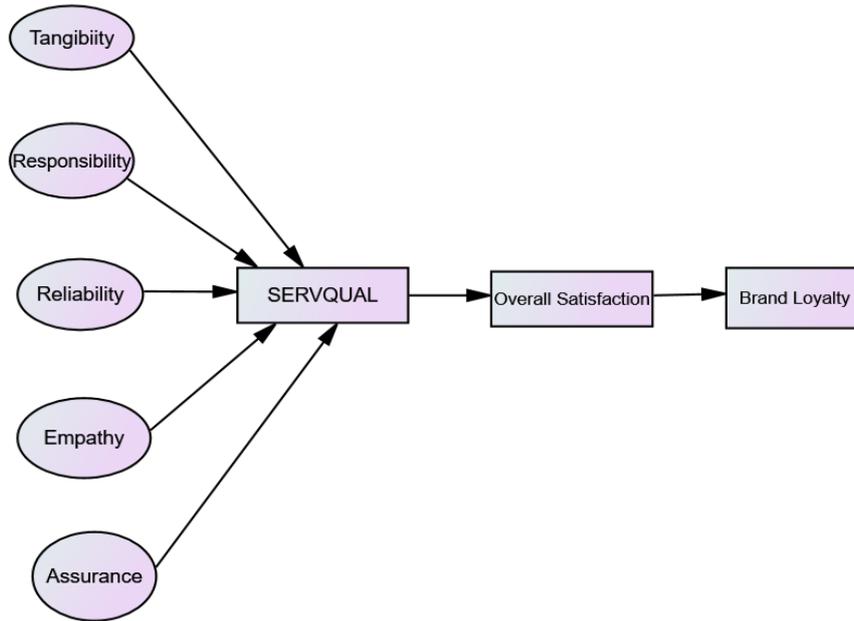
Table 1   Reliability statistics

Constructs	No. of variables	Cronbach's alpha
Assurance	3	.768
Empathy	2	.764
Responsiveness	5	.801
Tangibility	7	.838
Reliability	3	.757

4.5 Reliability

For the assessment of measuring the service quality like SERVQUAL, unidimensionality is an important criterion but construct reliability cannot be provided by it so for that Cronbach alpha coefficient is widely used in assessing it. It assumes by making all the items equally important. Table 1 shows the Cronbach alpha values for all the factors. It has been observed that all the Cronbach alpha coefficients have the value more than the traditionally accepted value of 0.70.

5   Data analysis

Each dimension score is compared with respect to patient perception and expectation and based on that findings overall patient score is analysed to know the effect on patient satisfaction and thus on brand loyalty. Data is analysed using the SPSS software and AMOS software.

Table 2 Demographic data of the respondents

	Categories	*Frequency*	*Percent*
Age group	18–25 years	134	41.0
	26–35 years	76	23.2
	36–50 years	62	19.0
	Above 50 years	55	16.8
Gender	Male	160	48.9
	Female	167	51.1
Marital status	Married	171	52.3
	Unmarried	156	47.7
Educational qualification	Undergraduate	31	9.5
	Graduate	138	42.2
	Postgraduate	106	32.4
	Professionally qualified	52	15.9
Occupation	Student	121	37.0
	Service personnel	102	31.2
	Business personnel	78	23.9
	Retired personnel	26	8.0
Income groups (monthly in Rs.)	Below 25,000	141	43.1
	25,000–50,000	71	21.7
	50,000–100,000	66	20.2
	100,000 and above	49	15.0
Preference of hospital	Private hospital	152	46.5
	Government hospital	63	19.3
	Multi-specialty hospital	102	31.2
	Polyclinic	10	3.1

5.1 Demographic analysis (Table 2)

The sample is distributed into different age groups ranging from 18 years till 50 years and above and it has been observed that people lie between the frequency is ranging from 55 to 134. The sample is also analysed as per the gender and it has been observed that the percentage of males is 48.9% and females are 51.1%. When the sample is analysed based on the marital status, it has been observed that there was 52.3% of married people and 47.7% were unmarried ones. Educational qualification of the people is also studied as it can play an important role in understanding the choices made by the people. It has been observed that there are undergraduates, graduates, postgraduates and professionally qualified people. The frequency of educated people lies between 31 to 138. The occupation of the people is also considered. Basically, four different types of occupation have been observed, i.e., student, service personnel, business personnel and retired personnel. The percentile of occupation lies between 8% to 37%. The sample is also analysed based on income as it plays an important role in the decision-making of

personnel. The segregation is done into four groups: people having monthly income below Rs.25,000, between Rs.25,000–Rs.50,000, between Rs.50,000–Rs.100,000 and above Rs.100,000. The frequency of people earnings lies between 49 to 141. Above all the distributions, the main analyses have been done with respect to the preference of the people with a type of hospital will they preferred to go which will be influenced by above-mentioned factors. Most people preferred to go to the private hospital and very few are in favour of going to polyclinics.

Table 3   Descriptive statistics of service quality measures

	Mean	Std. deviation
The patient able to trust the nurses of the hospital (assurance 1)	4.24	.817
The employees aware of the patient's needs (empathy 1)	4.30	.765
The nurses show personal attention to the patients (empathy 1)	4.49	.733
The patients who will be discharged getting the prompt services from the employees of the hospital for the discharging operations (responsibility 1)	4.26	.765
The patients getting the prompt services from the nurses when the patients' needs them (responsibility 2)	4.33	.767
The employees of the hospitals explain the patients question appropriately about any procedure (responsibility 3)	4.16	.853
The employees explain the treatment to the patient very clearly (responsibility 4)	4.33	.706
The employees always be willing to help the patients (responsibility 5)	4.24	.770
Will you recommend the hospital to your relatives or patients (brand loyalty 1)	3.99	.863
Patients feel safe in their transactions with the hospital employees (assurance 2)	3.58	.633
The patient able to trust the billing done by the hospital (assurance 3)	3.85	.977
Will you come next time when in need (brand loyalty 2)	3.72	.714
The patient is overall satisfied with the services and facilities provided by the hospital (overall satisfaction 1)	3.95	.684
The hospital has up to date equipment and technology (tangibility 1)	3.71	.931
The physical facility is visually appearing (tangibility 2)	3.91	.757
The bathrooms are neat and clean (tangibility 3)	3.88	.863
Is parking space being convenient (tangibility 4)	3.64	.949
Nurses respect privacy (tangibility 5)	3.63	.983
The rooms are properly cleaned (tangibility 6)	3.91	.837
The food provided is properly cooked and maintained at right temperature (tangibility 7)	3.87	.897
If the staff of the hospital promise to do something by a certain time, it is done (reliability 1)	3.84	.907
The food is delivered on time as per the patient's schedule (reliability 2)	3.89	.939
The hospital keeps the patient's record accurately (reliability 3)	3.95	.818
The overall ratings which can be given to the hospital (overall satisfaction 2)	3.66	.826

5.2 Descriptive analysis

In Table 3, descriptive statistics of service quality are analysed. It has been observed that one indicator of assurance and all the indicators of empathy and responsibility have means ranging between 4 to 4.5 and all other indicators of brand loyalty, reliability, tangibility, overall satisfaction and two indicators of assurance have means ranging between 3 to 4. All the indicators have standard deviation between 0.8 and 0.9. This reflects that they are overall satisfied with the quality of services provided by the hospital.

6 Findings

6.1 Model fit

CFA has been done to evaluate the properties of service quality constructs. All the constructs have been evaluated for discriminant validity, unidimensionality and dimensionality. The CFA was also used to test the multidimensionality and fit of the model for each dimension. Moreover, all the factors were significant and convergent validity is being indicated by them. The value of chi-square is coming out to be 23.867 at the 40 degrees of freedom which is as per the accepted value of chi-square. The goodness of fit index (GFI) is 0.90, the comparative fit index (CFI) comes out to be 0.91, normed fit index comes out to be 0.85 and the root mean square error of approximation (RMSEA) is 0.57. The probability level is also coming out to be less than 0.1.

6.2 The path model

SEM using AMOS software has been used to test whether the proposed model is fit or not. The value of chi-square is coming out to be 50.610 at the 68 degrees of freedom which is as per the accepted value of chi-square. The GFI is 0.88, the CFI comes out to be 0.886, normed fit index comes out to be 0.80 and the RMSEA is 0.58. The overall result of the model indicates that it a good fit. All the dimensions of SERVQUAL have t-values that are significant at $p < 0.001$. Thus, the relationship between the perceived service quality and expected service quality is supported. The results of the SEM indicate that all the constructs have significant loadings on their corresponding constructs with significant t-values ($P < 0.001$), the lowest t-value comes > 8.00. Thus, the resultant of the path model (Figure 2) shows that it is a good fit.

Table 4 Result of SEM

Structural path	Standard coefficients	t-values	Significance
SERVQUAL → overall satisfaction	0.386	7.746	< 0.001
Overall satisfaction → brand loyalty	0.195	3.905	< 0.001

Figure 2 The path model (see online version for colours)
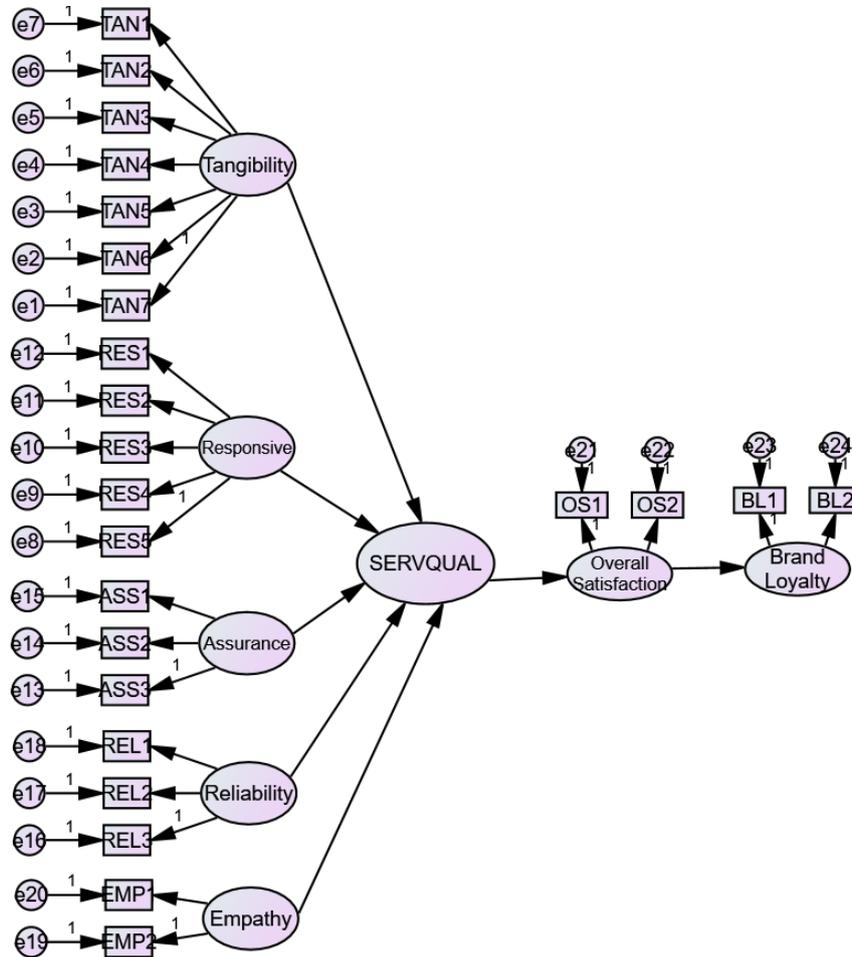
7   Conclusions, implications and limitations

The main objective of the research is to study the impact of five dimensions of SERVQUAL, i.e., tangibility, reliability, responsiveness, empathy and assurance, on overall satisfaction and thus effect of overall satisfaction on brand loyalty. The resultant shows that SERVQUAL has a positive effect on overall satisfaction and overall satisfaction has a positive effects on brand loyalty thus both the hypotheses have been achieved successfully. All the dimensions of SERVQUAL have found to achieve excellent discriminant validity, unidimensionality and convergent validity. Similarly, the resultant of Cronbach's alpha for testing the reliability was above the traditionally accepted value thus showing good reliability. The model fit was also achieved by using the CFA showing that all the constructs have significant t-values (p < 0.001). SEM was

used to identify the model fit and the resultant of the path model indicates that all the dimensions have significant values more than the widely accepted thus achieving the good fit.

The management can use this method to identify the gaps between the patient's perception and expectation as the way of looking things by management might be different from the patient's view. Thus, by implementing this in each department, they can identify the need of the patient. Brand building is a most crucial task for any organisation thus this can help the organisation in building the brand as it is directly proportional to overall satisfaction. The more the patient is satisfied the more will be the trust building towards the brand. Thus, focusing on patient satisfaction can help the organisation in making patients loyal towards their brand.

As most of the respondents were old age patients, for them it was a bit difficult to answer the questions clearly as the factors are somewhat related to each other. Single item scale was used to measure the dependent variables such as perception of the patients towards the overall quality of the services and patient loyalty towards the brand.

References

Babakus, E. and Mangold, G. (1992) 'Adapting the SERVQUAL scale to hospital services: an empirical investigation', *Health Service Research*, Vol. 26, No. 6, pp.767–786.

Berry, L. (1991) *Marketing Services: Competing Through Quality*, pp. 1–13, Free Press, New York.

Bilisik, O.N. (2013) 'A hybrid fuzzy methodology to evaluate customer satisfaction in a public transportation system for Istanbul', *Total Quality Management*, Vol. 24, No. 10, pp.1141–1159.

Bollen, K. (1989) *Structural Equations with Latent Variables*, John Wiley, New York.

Bopp, K. (1990) 'How patients evaluate the quality of ambulatory medical encounters: a marketing perspective', *Journal of Healthcare Marketing Research*, Vol. 10, No. 1, pp.6–15.

Calisir, F. (2012) 'Effects of service quality dimensions on customer satisfaction and return intention in different hospital types', *International Conference on Industrial Engineering and Operations Management*, Istanbul Turkey, pp.518–522.

Cambra-Fierro, J., Florin, J., Perez, L. and Whitelock, J. (2011) 'Inter firm market orientation as antecedent of knowledge transfer, innovation and value creation in networks', *Management Decisions*, Vol. 49, No. 3, pp.444–467.

Chakraborty, D. (2013) 'Relevance of SERVQUAL model for determining parameters of quality of healthcare service in Indian context', *International Journal of Research & Development in Technology and Management Services*, Vol. 20, No. 8, pp.1–17.

Chen, C. (2008) 'Investigating structural relationships between service quality, perceived value, satisfaction, and behavioural intentions for air passengers: evidence from Taiwan', *Transportation Research Part A*, Vol. 42, pp.709–717.

Gustafsson, A., Ekdahl, F. and Edvardsson, B. (1999) 'Customer focussed service development in practice: a case study at Scandinavian Airlines', *International Journal of Service Industry Management*, Vol. 10, pp.344–358.

Kumar, G.A., Manjunath, D. and Chethan, K. (2012) 'Service quality in hospital: a study of Apollo hospital in Mysore', *Journal of Business and Management*, September, Vol. 4, No. 1, pp.1–7.

Nagar, D. (2013) 'Perceived service quality with frill and no-frill airlines: an exploratory research among Indian passengers', *Prestige International Journal of Management & IT Sanchayan*, Vol. 2, No. 1, pp.63–74.

Pahuja, R. and Vohra, G. (2012) 'Indian healthcare sector-A technology approach for efficiency improvement', *International Journal of Advanced Research in Computer Science and Software Engineering*, Vol. 2, No. 7, pp.81–83.

Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988) 'SERVQUAL: a multiple item scale for measuring customer perceptions of service quality', *Journal of Retailing*, Vol. 64, pp.12–40, Spring.

Parasuraman, A., Zeithml, V. and Berry, L. (1985) 'A conceptual model of service quality and its implications for future research', *Journal of Marketing*, Vol. 49, No. 10, pp.41–50.

Punnakitikashem, P., Buavaraporn, N., Maluesri, P. and Leelartapin, K. (2012) 'Healthcare services quality: case example of a hospital with lean implementation', *POMS 23rd Annual Conference*, (Abstract No. 025–1232), Chicago, Illinois, USA.

Ramez, D.S. (2012) 'Patients perception of health care quality, satisfaction and behavioural intention: a empirical study in Bahrain', *International Journal of Business and Social Science*, Vol. 3, No. 18, pp.131–141.

Reeves, C. and Bednar, D. (1994) 'Defining quality: alternatives and implications', *Academy of Management Review*, Vol. 19, pp.51–58.

Rewar, D. (2012) 'Research paper hospital information system in clinical engineering department', *International Journal of Scientific & Engineering Research*, pp.1–6.

Sangode, P.B. (2011) 'Service quality of Maruti Suzuki and Hyundai dealer in Nagpur: a comparative study', *International Journal of Research in Finance & Marketing*, Vol. 1, No. 1, pp.91–106.

Scardina, S. (1994) 'A tool for evaluating patient satisfaction with nursing care', *Journal of Nursing Care Quality*, Vol. 8, No. 2, pp.38–46.

Sharmila, S. and Krishnan, D. (2013) 'Has the service quality in private corporate hopitals meet the patient expectations? A study about hospital quality in Chennai', *Asia Pacific Journal of Marketing & Management Review*, Vol. 2, No. 1, pp.19–35.

Szymansk, D. and Henard, D. (2001) 'Customer satisfaction: a meta-analysis of the empirical evidence', *J. Acad. Mark. Sci.*, Vol. 29, pp.16–35.

Tseng, M. (2011) 'Using hybrid MCDM to evaluate the service quality expectation in linguistic preference', *Applied Soft Computing*, Vol. 11, pp.4551–4562.

Zaim, H., Bayyurt, N. and Zaim, S. (2010) 'Service quality and determinants of customer satisfaction in hospitals: Turkish experience', *International Business & Economics Research Journal*, Vol. 9, No. 5, pp.51–58.

Zarei, A. (2012) 'Service quality of private hospitals: the Iranian patients perspective', *Health Services Research*, Vol. 12, No. 31, pp.1–7.