

Measurement of Patient Satisfaction with SERVQUAL Model of Private Hospitals: SEM Approach

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Patient satisfaction study can help identify ways of improving nursing and health care services. The aim of this study is to assess service quality dimensions to determine patient satisfaction with doctors, nurses and staffs care in private hospitals of Bangladesh. This study has been conducted on 400 patients with a structured questionnaire and using simple random sampling method. For analyzing data, both descriptive and inferential statistics has been used. By using Structural Equation Modeling, the study has found assurance, empathy, reliability, responsiveness and tangibility as influential factors; and is significantly related to the overall patient satisfaction in private hospitals. This study suggests that for ensuring better patient satisfaction, variables like: emergency patients, lab-report's accuracy, timely and appointment based patient observation, hygienic environment, and timely report delivery, etc. should be provided.

INTRODUCTION

Bangladesh is a country of 160 Million people & it is the 7th largest country in the world. In terms of population, more than 54% of preschool-age children, number of children amounts equivalent to more than 9.5 million, are stunted, 56% are underweight and more than 17% are wasted. Since all administrative divisions were affected by child malnutrition and there were highly significant differences in the prevalence's of the three anthropometric indicators. The manifestation of underweight children ranged from 49.8% in Khulna to 64.0% in Sylhet, which also showed the highest prevalence of stunting (61.4%) and wasting (20.9%) (Food and Agricultural Organization, 2016). So, Health care is one of the biggest concerns during few decades and few steps have been taken to create the structure of health care facilities in our country. Also, quality is one of the key parameters in order to measure the performance of

a product or service and consequently it is a strong building block for improving organizational performance. In healthcare organization customers are the key player, who played a significant role to measure the quality of the product or services. Products are tangible in nature and quality of the products can be easily measured whereas Due to intangible in nature, it is very difficult to measure the quality of any services due to its high dependency on customer expectations and perceptions (Samson & Parker, 1994).The perceptions of expected service and the quality of service that are delivered to the patients should fulfill or exceed their expectations and perceptions (Zeithaml, Berry & Parasuraman, 1993). Like the other service organizations, healthcare organization has become a highly competitive and very rapidly growing service industry in Bangladesh. In healthcare, patient perceptions are considered to be the major determinant to assess the service quality of a healthcare organization (Cronin & Taylor, 1992). This interprets that customer satisfaction is the prime indicator for critical decision making in selecting a healthcare service. This study is intended to investigate the level of quality healthcare services that are delivered to patients by the Private Hospitals. For this purpose 'SERVQUAL' instrument as well as five service quality dimensions; assurance, empathy, tangibility, reliability and responsiveness were used to measure the patient's perceptions about the service quality of private hospitals in Bangladesh.

LITERATURE REVIEW

To differentiate from competitors, the quality of service is mainly considered as a critical success factor for hospitals. Previously, several research studies have been accomplished to determine relative factors of service quality. For instance, several studies have found that service quality can influence the level of customer satisfaction (Muslim& Isa, 2005). Customer satisfaction will influence to repurchase or reuse from the same service provider (Eshghi et al., 2008); as a result, company revenue will go up in the long run. Variations in service performance may provide opportunities to service quality, and customer satisfaction.

Service Quality

Service quality is a measurement of how satisfactorily a delivered service can fulfill the standard or the client's expectations. Service operators often measure the service quality to improve their services, to quickly determine problems, and to better assess client satisfaction. According to Grönroos (2001), **Service quality** is a comparison of expectations of the customer with performance & the difference between what customer expectations are and their perceptions. (Parasuraman et al., 1988; Irfan & Ijaz, 2011). Service quality has become an important topic due to its significant relationship to profit, cost saving and market share (Devlin and Dong, 1994). Service marketing researchers have developed nineteen service quality models from 1984 to 2003 (Seth, Deshmukh & Vrat, 2005). The single primary goal of these models is to offer managers an understanding into the components of service quality for the better improvement of organizational offerings.

Service Quality Model

Measurement of service quality has been one of the key priorities and task of various service organizations and the SERVQUAL model proposed by Parasuraman et al. (1985) has been used in a number of studies to measure the customer's service related perceptions and expectations towards the provider's performance (Zarei et al., 2012; Ladhari, 2009). Favorable customer perception regarding service quality will have a positive impact on overall customer satisfaction. This will influence customer's behavioral intention; repeated purchase and willingness to recommend the service to others (Parasuraman et al., 1988). Parasuraman et al. (1985) took a number of research projects that results into the service quality model, namely "SERVQUAL". Previously, the model was based on 10 dimensions of service quality and then reduced to 5 dimensions, as: Tangibility (equipment, appearance and physical facilities), Reliability (accurate and independent service providing ability), Responsiveness (willingness in help customers and providing prompt services), Empathy (caring and individualized attention towards customers, covering access to and understanding of the customers) and Assurance

(service providers' knowledge, ability and courtesy to show trust and confidence). The SERVQUAL model have 22 pairs of Likert scale questions that are designed to measure customers' expectation from a service and the customers' perception and attitude towards a service provided by a service provider organization. To assess a service quality, the perception score and expectation score found from each question is compared to figure out a gap. The positive gap score means that customers' expectations are fulfilled or exceeded, while the negative score means the opposite. Other study mentioned that service quality is divided into two main components; namely: functional and technical quality (Gronroos, 1984).

Combined with some modification or additional operational assessment, the SERVQUAL model have been used to gauge service quality in a variety of service industries like: banking (Roig et al., 2006), sports and tourism (Kouthouris and Alexandris , 2015), retail business stores (Eastwood et al., 1999), library setting (Ho and Crowley, 2003), local government authority (Wisniewski, 2001), professional Accounting service (Aga and Safali, 2007), education (Arambewela and Hall, 2006), airlines service (Prayag, 2007), mobile telecommunications (Lai et al., 2007), and services based on website (Kuo et al., 2005). According to Parasuraman et al. (1985), the SERVQUAL model was based on the fifth gap that converted the original ten service quality dimensions into five consolidated dimensions of service quality: Tangibility, Reliability, Responsiveness, Assurance and Empathy. Parasuraman et al. (1985), described these dimensions as:

Tangibility is the physical evidence of the service, for instance, the appearance of the tools, equipment and physical facilities, used to provide the service.

Reliability is the ability to perform the promised service in an accurate manner.

Responsiveness is the readiness and willingness of employees to assist customers by providing prompt timely services.

Assurance is the knowledge of employees and their ability to have trust and confidence towards customers.

Empathy is the caring, individualized and customized attention provided to customer.

Patient Satisfaction in Private Hospitals

Bangladesh is a developing country; in addition to that healthcare is one of the major sectors of the economy. A number of steps have been taken by government of Bangladesh and management body of hospitals to improve the quality services for patients coming to a hospital. Quality care can be defined as the features and characteristics of a service that has the ability to satisfy a given need (Bauer JE, Duffy GL, Westcott, 2006). The amount of budget allocated to healthcare is now improved. Very recent literature in developed countries focused upon needs and wants of patients and their thoughts. According to (Youssef et al., 1996) hospitals usually provide same types of services but their level of quality as a service varies from hospital to hospital. According to (Bergman and Klefsjo, 1994) the best way to assess service quality is to measure the level of satisfaction of customers because they are the ultimate benefit taker of quality service. According to (O'Connor et al 1994; Andaleeb, 2000) renewed attention is given from patients' perspective now-a-days and their perceptions are thought as crucially important instead of focusing only on hard aspects of quality. According to Meredith & Siu (1995) hospital authority must consider and give importance to patient's opinion to improve the overall quality of services delivered by hospitals.

Relationship between Service Quality Model and Patient Satisfaction

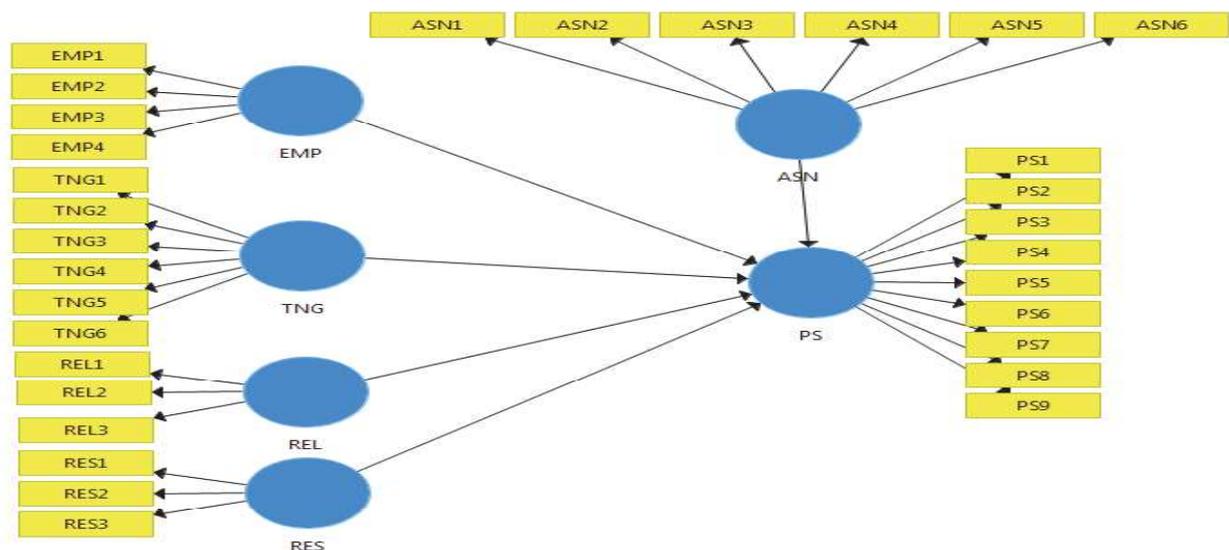
The health care industry in the Arabic Gulf Region, Jabnoun, Rasasi, & Aisha (2005) studied the relationship between transformational leadership and the level of service quality in six UAE hospitals. The findings showed that patients were generally satisfied with the level of quality services provided by their hospitals, and a positive relationship was explored between service quality and all dimensions of transformational leadership. Tangibles dimension of service quality had the lowest point of expectation of all five dimensions. Mostafa (2005) analyzed patients' perceptions toward quality service in Egypt's hospitals. The results showed three factor based solution that is inconsistent with the five

elements associated with SERVQUAL model. In the perspectives of developing countries, Andaleeb (2001) tested a five dimension based instrument for measuring perception of patients toward hospital services in Bangladesh. The results showed that there exists a significant relationship between the five factors and patients' satisfaction. Baker, Akgun and Assaf (2008) used an improved SERVQUAL scale to measure patients attitudes toward health service in Turkey. Data collected from 472 patients showed that patient's perceived service quality scores are higher than their expected service quality scores for ordinary hospitals and lower than their expected scores for modern hospitals. However, Rohini and Mahadevappa (2006) measured patients' satisfactions of service quality in Bangalore hospitals of India. The collected data from 500 patients explored that expectations exceeded their perceptions in 22 items of service quality.

CONCEPTUAL FRAMEWORK

The objective of this study is to assess service quality dimensions to determine patient satisfaction with doctors, nurses and staffs care in private hospitals of Bangladesh, on the basis of different factors like assurance, empathy, tangibility, reliability, and responsiveness. The theoretical model is presented in figure 1.

FIGURE 1
CONCEPTUAL FRAMEWORK OF THE RELATIONSHIP BETWEEN SERVICE QUALITY AND PATIENT SATISFACTION



OBJECTIVES OF THE STUDY

The prime objective of this study is to assess service quality dimensions to determine patient satisfaction with doctors, nurses and staffs care in private hospitals.

The other objectives are (i) to identify the significant factors that can influence patient satisfaction, (ii) to analyze the factors that affect the satisfaction of patients, and (iii) to give some suggestions for the improvement of the patient satisfaction level of private hospitals of Bangladesh.

METHODOLOGY OF THE STUDY

This study has been based on both primary and secondary data. Primary data were collected by surveying of 400 hospital employees, nurses, patients from the 3 hospitals located in Uttara, Dhaka city. To determine the sample size of patient, published formula of University of Florida was used as a reference. According to this formula, the sample size for the more than 10 lac population size with 95% confidence level and $\pm 5\%$ precision level are approximately 400 using the following formula Yamane, T (1967):

$$n = \frac{N}{(1 + Ne^2)}$$

Where, n = sample size,

N = the population size, and

e = the level of precision

Questionnaire Design and Test of Reliability

A structured questionnaire with the 5-points scale was developed for the items related to impact of perceived service quality on private hospitals in Bangladesh. Simple random sampling technique was used to select respondents for the study. To confirm the responses of the sample respondents, a structured questionnaire was used. Five points Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used to collect data from the respondents. Four demographic variables, namely, age, gender, and education level were taken to ensure the variability of different variables. Respondents were asked to respond about their perceptions of the quality of services provided by private hospital in Bangladesh in terms of the above five services quality dimensions. The secondary data were collected from the journals, periodicals, website, etc. to make the study more informative. Table-3 shows that the reliability coefficient of the questionnaire. It shows that the cronbach's alpha, composite reliability, average variance extracted of the questionnaire as shown Table-2 which is at the acceptable limit as per Nunnally and Berstein (1994), Hair et al. (1998), Fornell & Larcker, (1981); Henseler, Ringle, & Sinkovics, (2009) respectively.

Data Collection and Data Analysis

A survey has been conducted different three hospitals at Uttara in Bangladesh with the assistance of BBA students of Uttara University. The interviewers were properly trained on the items representing the questionnaire for data collection before resuming the interview. Along with descriptive statistics, inferential statistical techniques such as Factor analysis, and Structural Equation Modeling were used to analyze the data by using SPSS (Statistical Package for Social Science) and SmartPLS (statistical software) respectively. Structural Equation Modeling was conducted to identify the influential factors; those factors have been affected on perceived service quality of those hospitals.

Statistical Tools Used

Both descriptive and inferential statistics were used to analyze the data. Inferential statistics like Factor Analysis (FA) was used to separate the factors related to perceive service quality of those hospitals in Bangladesh. Partial Least Square method was also used to identify the significant factors from the factors identified through factor analysis.

Measurement Model

Both reliability/ internal consistency and validity criteria were used to test the measurement model. To analyze the reliability model, this study used the Cronbach's alpha coefficient and composite reliability (CR) value. Table 3 shows all Cronbach's alpha values are above 0.60 cutoff values as suggested by Nunnally and Berstein (1994). Standardized Cronbach's alpha formula is given below. $\alpha = (N \cdot \bar{c} / (\bar{v} + (N-1) \cdot \bar{c}))$

Here, N is equal to the number of items, \bar{c} is the average inter-item covariance among the items and \bar{v} equals the average variance.

Validity Analysis

To validate the measurement model, two basic approaches were used: convergent validity, and discriminant validity.

Convergent Validity

The measurement model was tested for convergent validity, which is the extent to which multiple items to measure the same concept are in agreement (MacKinnon, 2008). According to Hair *et al.* (1998) convergent validity could be accessed through factor loadings, composite reliability and the average variance extracted. The results of the measurement model show that the loadings (**Table 3**) for all items exceeded the recommended value of 0.5 (Hair *et al.* 1998). Composite reliability (CR) values ranged from 0.794 to 0.875 which exceeded the recommended value of 0.7 (Hair *et al.* 1998)(**Table 3**).

Average variance extracted

All values of the average variance extracted (AVE) that measures the variance captured by the indicators relative to measurement error were greater than 0.50 (**Table 3**) to indicate acceptability of the constructs (Fornell and Larcker, 1981; Henseler, Ringle, and Sinkovics, 2009). The **table 3** indicates that these indicators satisfied the convergent validity of the constructs.

Discriminant Validity

This study also validated the discriminant validity of the instrument. The discriminant validity represents the extent to which measures of a given construct differ from measures of other constructs in the same model (MacKinnon, 2008). In a PLS, the most important criteria for adequate discriminant validity is that a construct shares more variance with its items than it is shared with other constructs in a given model (Hulland, 1999). It was assessed by examining the correlations between the measures of potentially overlapping constructs. Items loads more strongly on their own constructs in the model, and the square root of the average variance extracted for each construct is greater than the levels of correlations involving the construct (Fornell and Larcker, 1981). As shown in Table 3, the square root of the average variance extracted for each construct is greater than the items on off-diagonal in their corresponding row and column, thus, indicating the adequate discriminant validity. The inter-construct correlations show that each construct shares larger variance values with its own measures than with other measures. In sum, the measurement model demonstrated adequate convergent validity and discriminant validity.

TABLE 01
DISCRIMINANT VALIDITY OF SERVQUAL MODEL

	1	2	3	4	5
1. Assurance	0.804				
2. Empathy	0.689	0.822			
3. Reliability	0.701	0.548	0.758		
4. Responsiveness	0.724	0.477	0.729	0.878	
5. Tangibility	0.016	0.15	0.025	0.564	0.904

Coefficient of Determination: The reliability also finds that the coefficient of determination R^2 value of Service Quality construct is 0.619 suggesting that 61.9% of the variance in Service Quality was explained by Assurance, Empathy, Reliability, Responsiveness, and Tangibility. The value of R Square Adjusted is 61.4% for service quality dimensions to patient satisfaction (**Table 4**).

Hypothesis

In the literature, the related studies suggest that the types of factors in SERVQUAL model applications in different hospitals are assurance, empathy, tangibility, reliability, and responsiveness. Therefore, the following hypotheses have been developed:

H₀₁: There is no significant relationship between assurance and patient satisfaction.

H₀₂: There is no significant relationship between empathy and patient satisfaction.

H₀₃: There is no significant relationship between tangibility and patient satisfaction.

H₀₄: There is no significant relationship between reliability and patient satisfaction.

H₀₅: There is no significant relationship between responsiveness and patient satisfaction.

Demography

Table 2 show that 87.2% of the respondents are male and 12.8% of the respondents are female. **Table 2** shows the educational qualification of the respondents where 39.5% respondents are having Bachelor or Masters Degree; that means about 40% respondents has higher education. The ultimate effect is that our research has a certain level of very accurate responses as this part of respondents understood the survey question clearly and responded accurately. The age distribution of respondents as shown in **Table 2** indicates that the majority of respondents 177 (44.2 %) whose age between 24-32 years and smallest number of respondents 55 (13.8%) whose age 40 years and above. Majority age group 24-32 indicates that most of the respondents are young who have good knowledge about modern medical technologies and facilities. That's why this age group can assess the service quality of private hospitals according to the modern world.

TABLE 2
SOCIO-DEMOGRAPHIC PROFILE OF RESPONDENTS

	Frequency	Percent
Gender		
• Male	349	87.2
• Female	51	12.8
Level of Education		
• Secondary	102	25.5
• Higher Secondary	140	35.0
• Bachelor degree	104	26.0
• Masters' degree	54	13.5
Age of respondents		
• 17-24 years	76	19.0
• 24-32 years	177	44.2
• 32-40 years	92	23.0
• 40 years and above	55	13.8

RESULTS OF EXPLORATORY FACTOR ANALYSIS

A total of 400 usable survey responses were analyzed in this section. The factor analysis technique has been applied to examine the relationship between different factors of service quality and patient satisfaction. The five factors that are found from the rotated factor matrix (**Table: 3**) are given below:

Factor-1 (Assurance): This includes two variables like: accuracy of lab reports, and special attention to emergency patients. So, it provides a basis for conceptualization of a dimension which may be identified as assurance factor.

Factor-2 (Empathy): This includes three variables like: doctors have genuine concern about patients, doctor cares their patients, and staff and nurses care the patient has the principal factors. So, it provides a basis for conceptualization of a dimension which may be identified as empathy factor.

Factor-3 (Reliability): This includes three variables like: patients are observed to appointment, delivery of reports on time, doctor/staff observed the promised time has the principal factors. So, it provides a basis for conceptualization of a dimension which may be identified as reliability factor.

Factor-4 (Responsiveness): This includes three variables like: efficiently respond to patient, willing to help/ facilitate patient, and feedback mechanism has the principal factors. So, it provides a basis for conceptualization of a dimension which may be identified as responsiveness factor.

Factor-5 (Tangibility): This includes four variables like as hygienic conditions at the hospital, waiting facilities for patient, healthy environment, and lab and pharmacy facilities have the principal factors. So, it provides a basis for conceptualization of a dimension which may be identified as tangibility factor.

TABLE 3
MEASUREMENT MODEL ANALYSIS

Factors	Variables	Factor loading	AVE	Composite Reliability	Cronbach's Alpha
Assurance	Special attention to emergency patients	0.871	0.717	0.835	0.708
	Accuracy in lab reports	0.822			
	Doctor care their patients	0.791			
Empathy	Doctors have genuine concern about patients	0.744	0.573	0.801	0.730
	Staff and nurses care the patient	0.735			
	Doctors/Staff observe the promised time	0.864			
Reliability	Patients are observed according to appointment	0.829	0.701	0.875	0.790
	On time delivery of reports/services	0.818			
	Good Feedback mechanism	0.757			
Responsiveness	Doctors/staff efficiently respond to the patients	0.749	0.563	0.794	0.712
	Doctors/Staff are willing to help/facilitate the patients	0.744			
	Hygienic conditions at hospital	0.819			
Tangibility	Cleanliness in wards/rooms (sheets, floor)	0.789	0.620	.867	0.796
	Healthy environment at hospital	0.775			
	Waiting facilities for attendants and patients	0.765			

Note: AVE>0.50(Fornell&Larcker, 1981; Henseler, Ringle, &Sinkovics, 2009), Composite Reliability>0.70(Hair *et al.* 1998), Cronbach's alpha>0.60(Nunnally and Berstein , 1994)

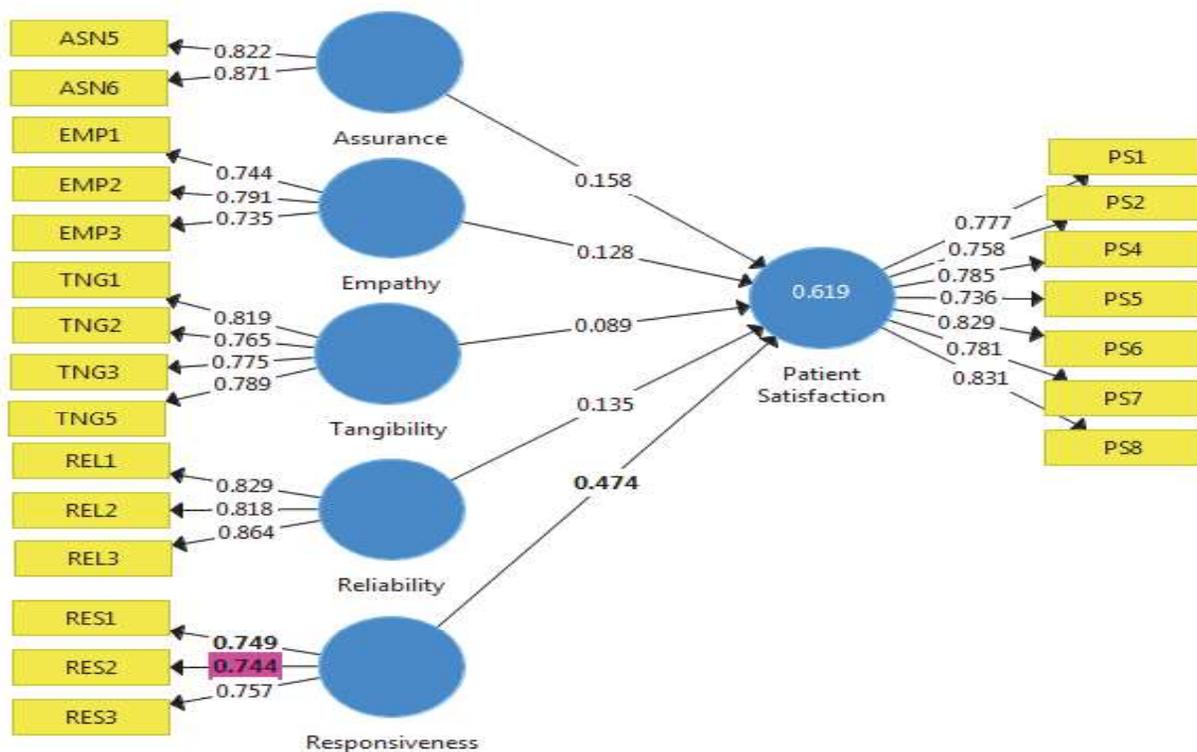
RESULTS OF MULTIVARIATE ANALYSIS - PERTIAL LEAST SQUARE (PLS)

A multivariate analysis technique like partial least square was used to identify the significant relationship between patient satisfaction and the factors identified through service quality factors (Assurance, Empathy, Reliability, Responsiveness, and Tangibility). Path diagram (**Table 4 and Figure 2**) revealed that assurance ($\beta= 0.158$; $t = 3.795$, empathy ($\beta = 0.128$, $t = 3.368$), tangibility ($\beta = 0.089$, $t = 2.239$), reliability ($\beta = 0.135$; $t = 3.032$), and responsiveness ($\beta = 0.474$; $t = 8.829$) were found to be

related to patient satisfaction, with the evidence that the five formulated hypotheses exceeded the recommended value, 1.96 (< 0.05), hence, Assurance, Empathy, Reliability, Responsiveness, and Tangibility have relationship with patient satisfaction.

Table 4 also shows that the items of the constructs (Assurance, Empathy, Reliability, Responsiveness, and Tangibility) were valid measures of their respective constructs based on their loadings values (standardized estimates) and statistical significance (Chow & Chan 2008). The T - value of every factor indicates that four factors like as assurance, empathy, reliability, and responsiveness, whose values are greater than 2.58 and that is significant at 1% level of significance. This means that they are highly significant to the patient satisfaction. On the other hand remaining one factor like: tangibility whose value is greater than 1.96 and that is statistically significant at 5% level of significance. This means that it is statistically significant and related to the patient satisfaction.

FIGURE 2
RELATIVE IMPORTANCE OF THE SERVICE QUALITY FACTORS TO PATIENT SATISFACTION OF PRIVATE HOSPITALS



Hypotheses Testing

Table 4 presents the results of hypothesis testing. The table shows that the hypotheses H_1 , H_2 , H_3 , H_4 , and H_5 were not supported as the t-value is more than 1.96 at the 5% level of significance. This means that null hypotheses are rejected and alternative hypotheses are accepted. As a result, Assurance, Empathy, Reliability, Responsiveness, and Tangibility have significant relationship with patient satisfaction

TABLE 4
SUMMARY RESULTS OF THE MODEL CONSTRUCTS

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values	Supported
Assurance -> Patient Satisfaction	0.158	0.157	0.042	3.795	0.000	YES
Empathy -> Patient Satisfaction	0.128	0.129	0.038	3.368	0.001	YES
Reliability -> Patient Satisfaction	0.135	0.134	0.044	3.032	0.003	YES
Responsiveness -> Patient Satisfaction	0.474	0.477	0.054	8.829	0.000	YES
Tangibility -> Patient Satisfaction	0.089	0.087	0.040	2.239	0.026	YES
R Square		0.619				
Adjusted R Square		0.614				

DISCUSSION

Assurance to Patient Satisfaction (H1)

Whichever the hospital is, the prime task of the hospital will be to ensure satisfaction of the patient or the patient's family by providing enough quality services. This is the prime concern of assurance. The factors that are covered under this part are: doctor's ability and efficiency, regular examination of patient, accuracy of the report, taking advice from expert doctors, special caring for emergency patients, etc. According to our study, patients are satisfied with the services provided by private hospitals. The study found that assurance to patient satisfaction is highly significant at the 1 % level of significance. This means that private hospitals in Bangladesh can provide enough quality services.

Empathy to Patient Satisfaction (H2)

The factors that are considered by any patient to have a positive impression on any hospital, empathy is one of them. The factors that are covered under this part are: exact perception of doctors on patients, take care of patients by staff and nurses, maximum effort of hospital authority to cure patient, etc. This study found that empathy to patient satisfaction is highly significant at the 1 % level of significance. This means that private hospitals in Bangladesh have a positive impression with the level of services to the patients.

Tangibility and Patient Satisfaction (H3)

Tangibility focuses on infrastructural facilities. The factors that are covered under tangibility are: hygiene and health condition, proper seating facilities for visitors, cleanliness of toilets, cleanliness of the patient room, facilities of hospital's research, pharmacy facilities, overall tangible infrastructure, etc. This study found that tangibility to patient satisfaction is statistically significant at the 5 % level of significance. This means that private hospitals in Bangladesh have a significant impact of infrastructural tangible facilities on patient satisfaction.

Reliability and Patient Satisfaction (H4)

The reliability Service Quality Dimension refers to how the company is performing and completing their promised service, quality and accuracy within the given set requirements between the company and the customer. Reliability is just as important as a good first hand impression, because every customer wants to know if their supplier is reliable and fulfill the set requirements with satisfaction. This means the ability to perform the promised service dependably and accurately. The factors that are covered under

reliability are: handling customer service issues, providing services for the first time; offering services on time, and maintaining a record of error-free, fulfilling right order ; keeping accurate records; ensuring accurate quote; performing right in the bill. This study found that reliability to patient satisfaction is highly significant at the 1 % level of significance. This means that private hospitals in Bangladesh have a significant level of accuracy in delivering quality services.

Responsiveness and Patient Satisfaction (H5)

Responsiveness means the willingness to help customers and provide prompt service. It can also be stated as speed and timeliness of service delivery. The factors that are covered under tangibility are: processing speed and service capabilities to respond promptly to customer service requests, willingness or readiness of employees to provide services, understanding the needs and requirements of the customer, ensuring easy operation time, providing individual attention by the staff, and also giving attention to the problem and customers' safety in their dealings. This study found that responsiveness to patient satisfaction is highly significant at the 1 % level of significance. This means that private hospitals in Bangladesh have a very strong positive performance for patient satisfaction by providing prompt and timely services to the patients.

CONCLUSIONS AND RECOMMENDATIONS

The aim of this study was to assess service quality dimensions to determine patient satisfaction with doctors, nurse and staff care in private hospitals of Bangladesh. In this study, five important factors were identified through factor analysis for patient satisfaction of private hospitals. Here, four of them (assurance, empathy, reliability, and responsiveness) were found highly significant to patient satisfaction and another one (tangibility) was found statistically significant. The study tried to compose a conceptual model that would better predict and explain service quality dimensions to patient satisfaction in the health care context. The model was evaluated based on data collected from 400 respondents. The patient satisfaction accounted for 61.9 percent of the variance explained.

This study finds that the patients are concerned about getting special attention to emergency cases, doctors, staffs and nurses' care the patient as special treatment is very crucial to emergency cases. They seek accuracy in lab reports, on time delivery of reports, desire to be observed at promised time, and appointment based treatment as people want their time being valued. People who visit private hospitals are usually solvent. That's why, timeliness and accuracy is being highly valued by them. Patients also think in terms of emotions as they observe whether doctors have genuine concern about patients, or whether they efficiently respond to the patients, or whether they are willing to help the patients. Most importantly patients seek good hygienic conditions, cleanliness in wards/rooms (sheets, floor), and healthy environment at hospitals. Environmental cleanliness is needed in every hospital, but when patients are in private hospitals, they seek these cleanliness related factors significantly. In addition to that they want good feedback mechanism, and waiting facilities for attendants and patients as they want to remain pressure free physically and mentally.

This study suggests that for ensuring better patient satisfaction, factors like: special attention to emergency patients, accuracy in lab reports, doctors/Staff observe patients timely, appointment based observation, hygienic environment, and on time delivery of reports should be provided as all these factors has more than 0.8 loadings (**Table 4**).

SCOPE FOR FUTURE STUDY

This study was conducted based on three hospitals only. Therefore, there is an ample scope to conduct further study by taking more variables into account for more accurate results of patient satisfaction of private hospitals.

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REFERENCES

- Aga, M. & Safakli. (2007). An Empirical Investigation of Service Quality and Customer Satisfaction in Professional Accounting Firms: Evidence From North Cyprus. *Problems and Perspectives in Management*, 5, 84-98.
- Andaleeb, S. S. (2000). Service quality in public and private hospitals in urban Bangladesh: a comparative study. *Health Policy*, 53, 25-37.
- Andaleeb, S. S. (2001). Service Quality Perceptions and Patient Satisfaction: a Study of Hospitals in a Developing Country. *Social Science and Medicine*, 52, 1359- 1370.
- Arambewela, R., & Hall, J. (2006). A Comparative Analysis of International Education Satisfaction using SERVQUAL. *Journal of Services Research*, 6, Special Issue (July), 142-163.
- Bakar, C., Akgun, S. H., & Assaf, A. F. A. (2008). The Role of Expectations in Patient Assessments of Hospital Care. *International Journal of Health Care Quality Assurance*, 21(4), 343- 355.
- Bauer, J.E., Duffy, G.L. & Westcott, R. (2006). *The quality improvement handbook*, ASQ Quality Press Milwaukee, WI.
- Bergman, B. and Klefsjo, B. (1994). *Quality: From Customer Needs to Customer Satisfaction*, Student Litterateur, Lund.
- Chow, W. S., & Chan, L. S. (2008). Social network, social trust and shared goals in organizational knowledge sharing. *Information & Management*, 45(7), 458-465.
- Cronin, J. J. Jr. & Taylor, S. A. (1992). Measuring service quality: a re-examination and extension. *Journal of Marketing*, 56, 55-68.
- Devlin, S.I. and Dong, H.K. (1994). Service Quality from Customers' Perspective. *Marketing Research*, 6(1), 5- 13.
- Eastwood, W. J., Pearce, N. J. G., Westgate, J. A., Perkins, W. T., Lamb, H. F., and Roberts, N. (1999). Geochemistry of Santorini tephra in lake sediments from southwest Turkey. *Global Planet Change*, 21, 17 – 29.
- Eshghi, A., Roy, S., and Ganguli, S. (2008). Service quality and customer satisfaction: An empirical investigation in Indian mobile Telecommunications services. *Marketing Management Journal*, 18 (2), 119-144.
- Food and Agricultural Organization. (2016, February). Nutrition Country Profile. Retrieved from <http://www.fao.org/ag/agn/nutrition/bgden.stm>
- Fornell, C., and Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39-50.
- Gronroos, C. (1984). A service quality model and its marketing implications. *European Journal of Marketing*, 18, 36-44.
- Grönroos, C. (2001). The perceived service quality concept – a mistake. *Managing Service Quality*, 11(3), 46-55.
- Hair, J.F. Jr., Anderson, R.E., Tatham, R.L., & Black, W.C. (1998). *Multivariate Data Analysis*, (5th Edition). Upper Saddle River, NJ: Prentice Hall.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing: New challenges to international marketing. *Advances in International Marketing*, 20, 227-319.
- Ho, J., and Crowley, G.H. (2003). User Perceptions of the "Reliability" Of Library Services at Texas A&M University: A Focus Group Study. *The Journal of Academic Librarianship*, 29, 82-87.
- Irfan, S.M., & Ijaz, A. (2011). Comparison of service quality between private and public hospitals: Empirical evidences from Pakistan. *Journal of Quality and Technology Management*, 4(1), 1-22.

- Jabnoun, N., Rasasi, A., & Aisha, J. (2005). Transformational Leadership and Service Quality in UAE Hospitals. *Managing Service Quality*, 15(1), 70- 81.
- Kouthouris, C., & Alexandris, K. (2015). Can service quality predict customer satisfaction and behavioral intentions in the sport tourism industry? An application of the SERVQUAL model in an outdoors setting. *Journal of Sport Tourism*, 10(2),101–111
- Kuo, T., et al (2005). Measuring Users' Perceived Portal Service Quality: An Empirical Study. *Total Quality Management*, 16, 309-320.
- Ladhari, R. (2009). A review of twenty years of SERVQUAL research. *International Journal of Quality and Service Sciences*, 1(2), 172-198.
- Lai, F., et al, (2007). An empirical assessment and application of SERVQUAL in mainland China's mobile communications industry. *International Journal of Quality & Reliability Management*, 24, 244-262.
- MacKinnon, D. P. (2008). *Introduction to Statistical Mediation Analysis*. Mahwah, NJ: Erlbaum.
- Meredith, L. S., & Siu, A. L. (1995). Variation and Quality of Self-Report Health Data. Asians and Pacific Islanders Compared with Other Ethnic Groups. *Medical Care*. 33(11):1120–31.
- Mostafa, M. M. (2005). An empirical study of patients' expectations and satisfactions in Egyptian hospitals. *International Journal of Health Care Quality Assurance*, 18(7), 516 – 532.
- Muslim, A., and Isa, Z. (2005). Islamic banking in Malaysia: An empirical analysis of service quality and customer satisfaction, Proceeding of Seminar *Finance and Islamic Economics*, Universiti Utara, Malaysia, Ogos, 29-30.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory*, (3rd Ed.), New York: McGraw-Hill.
- O'Connor, S., Bauer, L., Tasman, A., & Hesselbrock, V. (1994). Reduced P3 amplitudes are associated with both a family history of alcoholism and antisocial personality disorder. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 18, 1307–1321.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41-50.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring customer perceptions of service quality. *Journal of Retailing*, 6(41), 12-40.
- Prayag, G. (2007). Assessing international tourists' perceptions of Service Quality at Air Mauritius. *International Journal of Quality & Reliability Management*, 24, 492- 514.
- Rohini, R., & Mahadevappa, B. (2006). Service quality in Bangalore hospitals an empirical study. *Journal of Services Research*, 6(1), 59-84.
- Roig, J., Garcia, J. S., Moliner, M. A., and Monzonis, J. L. (2006). Customer perceived value in banking services. *The International Journal of Bank Marketing*, 24(5), 266-283.
- Samson, D., and Parker, R. (1994). Service Quality: The Gap in the Australian Consulting Engineering Industry. *International Journal of Quality & Reliability Management*, 11 (7), 60 - 76
- Seth, N., Deshmukh, S.G., & Vrat, P. (2005). Service quality models: a review. *International Journal of Quality & Reliability Management*, 22, (9), 913-949.
- Wisniewski, M. (2001). Assessing customer satisfaction with local Authority services using SERVQUAL. *Total Quality Management*, 12, 995-1002.
- Yamane, T. (1967). Elementary sampling theory.
- Youssef, F. N., Nel, D., & Bovaird, T. (1996). Health care quality in NHS hospitals. *International Journal of Health Care Quality Assurance*, 9, 15-28.
- Zarei F., Taghdisi, M. H., & Tehrani, H. (2012). Normalizing health values in the socialization process. *Journal of Research Health*, 2(2), 169-171.
- Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1993). The nature and determinants of customer expectations of service. *Journal of the Academy of Marketing Science*, 12(1), 1-12.