

**SERVICE QUALITY PERCEPTION AND PATIENT SATISFACTION:
EVIDENCE FROM PRIVATE HOSPITALS IN KATHMANDU**

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Abstract

Main purpose of this paper is to examine the level of service quality of Private hospitals with dependent (Patient Satisfaction) and independent variables such as responsiveness, reliability, assurance, empathy and tangibility. Self administered structured questionnaire among 100 respondents of Kathmandu, Lalitpur and Patan is executed by convenience as well as judgment sampling. Coefficient, regression, correlation analysis and ANOVA are the basis for statistical analysis. In order to test the stated hypotheses, descriptive design has been applied. It has been revealed that private hospitals should focus more on convenient OPD and ward location. In addition, doctors should maintain the confidentiality of the patients. As a result, all the dimensions of service quality i.e. responsiveness, reliability, assurance, empathy and tangibility are positively correlated with respondent's satisfaction. However, tangibility and assurance are strongly correlated in perceived service quality satisfaction offered by private hospitals.

Key Words: *Service Quality, Customer Satisfaction, SERVQUAL, tangibility*

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1. BACKGROUND OF THE STUDY

(Kondalkar, 2007), states that maintaining and achieving qualitative service and customer satisfaction are the two most important factors which lead towards success in any organizations. To achieve these objectives, he further states that an organization has to marshal various resources, plan their usage over a time period and produce products or services to meet the consumer desires, needs and expectations. On the other hand, the customers naturally, compare the service they 'experience' with what they had 'expected' and when it does not match the expectations, this is a situation where a gap arises (Wilson, Zeithaml, Bitner, & Gremler, 2012).

The perception of different scholars is different in terms of customer satisfaction, but they all agree that to attain it, is a never ending process of any business. Customer satisfaction according to can be referred to the product perceived performance by the customers in delivering value relative to a buyer's expectations, otherwise, the buyer becomes dissatisfied (Kotler, Bowen, Bowen, & Makens, 1996). If the customer perceives that level of performance exceeds the expectation, then the buyer becomes satisfied.

In the service industry, understanding service gaps create an essential tool for understanding how the customers perceive and analyze the services offered. Such information may have tremendous institutional value in course of enlarging marketing growth and decisions in services. Effective service marketing is a complex undertaking involving many different skills and tasks aimed at heightening customer satisfaction. The scholars have recognized that the gap model as the key concept that begins the customer and builds the organization's tasks around what is needed to minimize and eliminate the gap between customer expectations and perceptions (Zeithaml, Bitner, & Gremler, 2009).

1.1 Review of Literature and Theoretical Framework

1.1.1 Concept and Evaluation of Service Quality

Service is an activity or benefit that is intangible and does not take a physical form (Barringer & Ireland, 2009). Zeithaml et al. (2013), services are deeds, processes and performance provided or coproduced by one entity or person for another entity or person. Further, (C.H. Lovelock & Wirtz, 2011) have defined service as economic activities between two parties, implying an exchange of value between buyer and seller in the marketplace. They have suggested services as intangible commodities.

(C.H. Lovelock & Wirtz, 2011) have stated that marketing interest in service quality is obvious that is poor quality places a firm at competitive disadvantage and drives away dissatisfied customers. Furthermore company personnel needs a uniform understanding to address issues such as the measurement of service quality, identification of the same, shortfall and design and implement of corrective actions. According to (C.H. Lovelock & Wirtz, 2011) , there are ten dimensions used by customers while evaluating service quality: tangibles, reliability, responsiveness, credibility, security, competence, courtesy, access, communication and understanding.

The present researcher has referred the work of (Chang et al., 2013) BMC Health Services Research 2013 where the dimensions of service on the area of health organization have been divided into three categories:

Response- Hospital's capabilities of delivery of correct service to the patients in the service encounter.

Reliability- Hospital's capabilities of providing services that correctly delivery the service requested by patients in the service encounter.

Assurance- Hospital's capabilities of providing services that really earn patients' confidence in the service encounter.

Furthermore, (A. Parasuraman et al., 1985; Anantharathan Parasuraman et al., 1988) explained that service quality is based on five dimensions: tangible, reliability, responsiveness, assurance, and empathy:

Empathy- Caring and individualizing the attention to the specific customers.

Tangibles- Appearance of physical facilities, personnel, equipment and communication materials.

1.1.2 Perception

(Cleary & McNeil, 1988) have examined that perception on patient satisfaction is related to technical skills, intelligence and qualifications however, skills in communication and interpersonal generally account for more of the variation in patient satisfaction. (Alrubaiee & Alkaa'ida, 2011) have cited Gronroos, 1984 where perceived service quality is seen as the outcome of an evaluation process, whereby the consumers compare their

expectations with the service they have received, i.e. they put the perceived service against the expected service. The result of this process will be the perceived quality of service.

Perceived quality is a global judgment, or attitude relating to the service. Perceived quality involves the subjective response of people and is therefore highly relativistic. It is a form of attitude, related but not equivalent to satisfaction, and results from a comparison of expectations with perceptions of performance (Anantharanthan Parasuraman et al., 1988). (Amin & Nasharuddin, 2013) cite that perceptions are based on the patients' judgment of the services provided by the hospitals for instance, the relationship between the staffs and patients, doctors and nurses (Martinez Fuentes, 1999).

(Desai, 2011) asserts that perception is distorted because of the inability of the patients to judge the technical competence with any accuracy (Carson et al., 1998). The courses related to medical only focus on imparting technical knowledge and skills to students and hence the doctors do not receive any soft skill training which aid in getting closer to their patients (John, 1996).

Hence, the impact on service quality perception is the interpersonal interaction between patients and services. However, for a patient to understand the level of service quality of a hospital, it is a very complex area as hospitals possess a unique characteristics depending upon being either a public, private or a semi government and involves numerous dimensions to evaluate service quality.

1.1.3 Concept of Patient Satisfaction

Patient satisfaction is normally defined as the patients' positive evaluation of health service s/he has received. It however involves the subjective comparisons of what s/he expected to receive and what was actually provided (Linder-Pelz, S, 1982; as cited in (Desai, 2011). Furthermore, patient satisfaction has been identified to be the most important factor and key success indicator in the area of health organization. Besides that, it is the judgment made by a care recipient as to whether their expectations for care have been met or not (Rafidah et al., 2017).

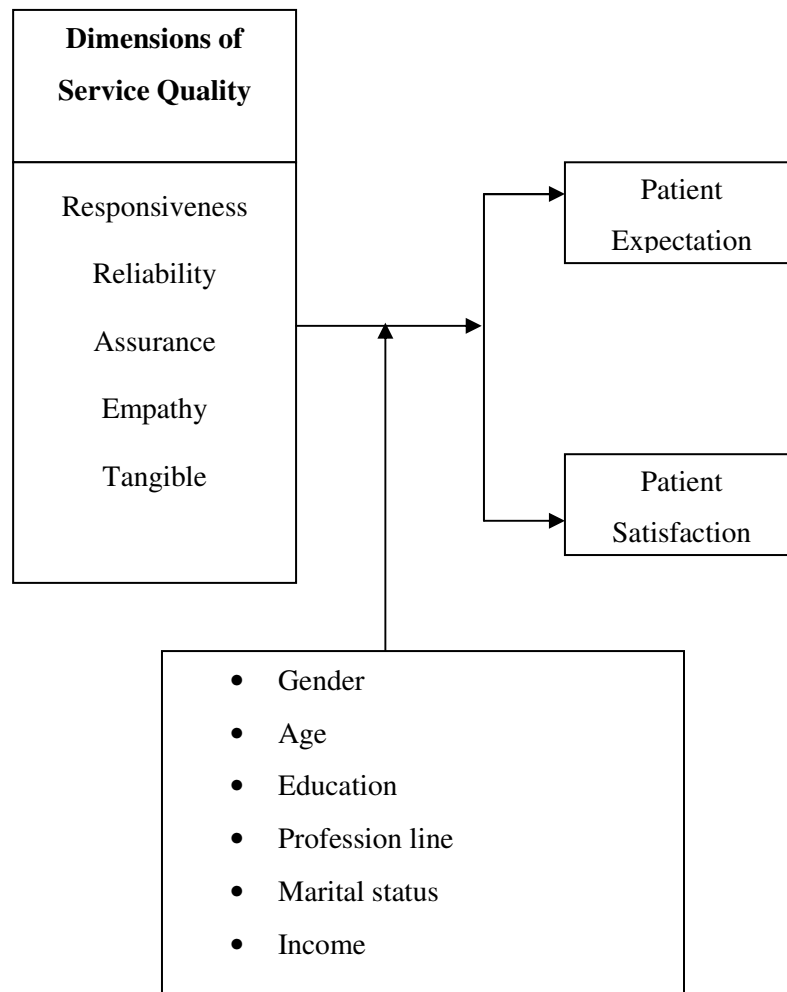
(Christopher H Lovelock & Wirtz, 2007) have categorized satisfaction as a state of mind like judgment taking after a buy demonstration or a series of consumer interaction. This implies that clients have specific satisfaction guidelines set in their brains before utilization of satisfaction. In regard to patient satisfaction, (Anantharathan Parasuraman et al., 1988) has cited the work of Pascoe, 1983 where it has been defined as a health care recipient's reaction to salient aspects of his or her service experience. In his statement, satisfaction is assumed to consist of a cognitive evaluation and an emotional reaction to the process, structure and outcome of services. Some of the dimensions of the patient satisfaction are personal aspects of care, the technical quality of care, accessibility and availability of care, continuity of care, patient convenience, physical setting, financial considerations and efficacy.

Not all customers come from same culture or background; some patients give importance to the bill they need to pay, some to the qualitative services whereas some others focus on relationship between the service providers and patient and their relatives. Similarly, the qualities of the relationship between patients and doctors have a considerable impact on the patient satisfaction measure. Therefore, the satisfaction of patients can be varied largely on the basis of different countries and cultures that cannot be generalized (Amin & Nasharuddin, 2013). Whereas (Chang et al., 2013) mention that trust enhances the level of satisfaction among patients and it helps in retaining the patients and improving the relationship between the service provider and recipients.

1.1.4 Conceptual Framework

On the basis of overall review works performed on the study, Dimensions of service quality such as responsiveness, reliability, assurance, empathy and tangibility come under independent variables whereas patient satisfaction under the dependent variables.

Figure 1.1.4: Conceptual framework of the study



1.1.5 Statement of Hypotheses

Considering all the constructs, the following working hypotheses have been generated for empirical assessment:

H₀₁: There is no significant relationship between responsiveness and its perception of service quality.

H₀₂: There is no significant relationship between reliability and its perceived level of delivered service quality.

H₀₃: Assurance and its perceived level of delivered service quality are independent of each other.

H₀₄: Empathy and its perceived level of delivered service quality are independent of each other.

H₀₅: Tangibility and its perceived level of delivered service quality are independent of each other.

H₀₆: There is no significant relationship between gender of the respondents and perception regarding service quality.

H₀₇: Age group and respondents' perception towards quality is independent of each other.

2. RESEARCH METHODOLOGY

In order to test the hypotheses regarding the perception of service quality and patient satisfaction, descriptive design has been applied and conducted through structured set of questionnaires from which statistical views and results are generated. The initial step of sampling design is to specify the target population. In the context of present research, the patients being directly or indirectly exposed to private hospitals of Kathmandu belong to the population of study. Altogether 100 sample sizes have been considered to conduct the survey. The non probability sampling technique has been used such as, judgmental where sample members can be selected to confirm some criterion of the research and convenience as it is the cheapest and easiest method to conduct and also grant freedom to choose the sample members.

2.1 Confirmation of Reliability

To measure the reliability of concerned tool, pilot test among 15 respondents were conducted. For establishing the reliability of the study with instrument having scale items, Cronbach's Alpha was run on 15 test samples of successful responses and the result is as follow:

Table 2.1 Reliability Test

Cronbach's Alpha	Number of items
0.711	15

The test result of 0.711 Cronbach's Alpha confirmed that the instrument was fairly reliable for research administration.

2.2 Mechanism for Result Analyses

For the management and analysis of data obtained from the questionnaires, several techniques such as tabulation and graphical presentation were used. More specifically frequency distribution tables for arraying the data and also the cross tabulation for comparing and analyzing the variation among different variables were used. In order to derive a result from the data collected, it is necessary to perform statistical test and analyses on the data. Hypotheses testing (other statistical testing method like regression, ANOVA, correlation) were performed. These tests helped in deriving the reliability of the data and its usability.

2.3 Socio- Ethical Compliance to be Made

The present researcher was quite concerned to make the overall research work as socio-ethically sound as possible. For this, few of the researchers opted strategies what include- the present researcher did not pressurize any of the respondents for participation, nor made excessive requests for responding the forms fully. The purpose was well communicated and consent for participation was sought before proceeding with data collection, further, no personal anonymity of any of the respondents was disclosed.

3. MAJOR ANALYTICAL PRESENTATION

The information gathered from the respondents was collected, coded and entered into the spreadsheet programming, called IBM SPSS worksheet. The data accumulated has been exhibited in tabular structures as it is prudent to take the benefit of visual systems for passing on the outcomes.

Table 3.1 Age group wise display of the respondents

Age		Gender				Total	Percentage
		Male	Percentage	Female	Percentage		
	Below 20	7	7%	4	4%	11	11%
	20-30	30	30%	31	31%	61	61%
	30-40	9	9%	7	7%	16	16%
	40 above	6	6%	6	6%	12	12%
Total		52	52%	48	48%	100	100.00%

Table 3.1 shows that age group below 20 years out of 11 respondent, 7 who are male and 4 are female, likewise, age group 20-30 years where out of 61 respondents 30 are male and 31 are female. In age group 30-40 years out of 16 respondents 9 are male and 7 are female and finally, in the age group of 40above out of 12 respondent 6 are male and 6 are female.

Table 3.2 Gender wise display of marital status of the respondents

Marital Status	Gender Of The Respondent				Total	
	Male		Female			
Single	34	34%	38	38%	72	72%
Married	18	18%	10	10%	28	28%
Total	52	52%	48	48%	100	100%

Table 3.2 shows that 72 respondents are single/unmarried out of which 34 are male and 38 are female. 28 respondents are married out of which 18 are male and 10 are female.

3.1 Pearson Correlation

Table 3.3 Correlation table of factors affecting service quality and patient satisfaction

Correlations						
	Responsiveness	Reliability	Assurance	Empathy	Tangible	
Responsiveness	Pearson Correlation	1	.704**	.654**	.535**	.692**
	Sig. (2-Tailed)		.000	.000	.000	.000
	N	100	100	100	100	100
Reliability	Pearson Correlation	.704**	1	.716**	.400**	.584**
	Sig. (2-Tailed)	.000		.000	.000	.000
	N	100	100	100	100	100
Assurance	Pearson Correlation	.654**	.716**	1	.542**	.736**
	Sig. (2-Tailed)	.000	.000		.000	.000
	N	100	100	100	100	100
Empathy	Pearson Correlation	.535**	.400**	.542**	1	.472**
	Sig. (2-Tailed)	.000	.000	.000		.000
	N	100	100	100	100	100
Tangible	Pearson Correlation	.692**	.584**	.736**	.472**	1
	Sig. (2-Tailed)	.000	.000	.000	.000	
	N	100	100	100	100	100

** . Correlation Is Significant At The 0.01 Level (2-Tailed).

Table 3.3 provides correlations between all the research variables. Spearman correlation coefficient was chosen to test the relationship between variables due to the non-normal distribution of variables. All the correlations between variables are significant and supported at the $p < 0.01$ level. The absolute values of the correlations range from moderate ($R = 0.400$) to high ($R = 0.736$) suggesting that relationships between variables vary from significant to strong. Among all the factors, the respondents have identified that assurance and tangibles are strongly correlated with Pearson correlation score of 0.736 whereas, the factors empathy and reliability are least correlated with the score of 0.400.

3.2 Regression Analysis of Hypothesis

In this section each hypothesis will be explained on the basis of R^2 value as well as p-value which indicates how much of the dependent variable can be explained by independent variable at 95 percent level of significant. Lastly, coefficient is measured which represents the impact of patient satisfaction for an increase or decrease in corresponding explanatory variable whilst keeping all other explanatory variables constant.

Table 3.4.: Regression table of patient satisfaction by responsive of the respondent

Regression						
Model	R	R Square	Adjusted R Square	Std. Error Of The Estimate		
1	.868 ^a	.753	.751	.36405		
ANOVA						
Model		Sum Of Squares	Df	Mean Square	F	Sig.
2	Regression	39.620	1	39.620	298.946	.000 ^b
	Residual	12.988	98	.133		
	Total	52.608	99			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
3	(Constant)	.955	.127		7.544	.000
	Responsiveness	.723	.042	.868	17.290	.000

The R² value is 75.3% which is relatively higher. The significant value is at .000 which is less than 0.05 therefore the null hypothesis **H01** is rejected and alternative hypothesis is accepted. Thus, it proves that the factor responsiveness and its perceived level of delivered service quality are statistically dependent of each other. Examining the Unstandardized Coefficients, the fitted model to predict expected patient satisfaction is:

$$\text{Patient satisfaction} = 0.955 + 0.723 \times \text{Responsiveness}$$

It represents the impact of patient satisfaction for an increase in the corresponding explanatory variable whilst keeping all other explanatory variables constant.

Table 3.5: Regression table of patient satisfaction by reliability of the respondent

Regression						
Model	R	R Square	Adjusted R Square	Std. Error Of The Estimate		
1	.829 ^a	.687	.683	.41020		
ANOVA						
Model		Sum Of Squares	Df	Mean Square	F	Sig.
2	Regression	36.118	1	36.118	214.652	.000 ^b
	Residual	16.490	98	.168		
	Total	52.608	99			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
		B	Std. Error	Beta		
3	(Constant)	.991	.146		6.774	.000
	Reliability	.676	.046	.829	14.651	.000

The R² value is 68.7% which is relatively high. The significant value is at .000 which is less than 0.05 therefore the null hypothesis **H02** is rejected and alternative hypothesis is accepted. Thus, it proves the factor reliability and its perceived level of delivered service quality are statistically dependent of each other. Examining the Unstandardized Coefficients, the fitted model to predict expected patient satisfaction is:

$$\text{Patient satisfaction} = .991 + 0.676 \times \text{Reliability}$$

It represents the impact of patient satisfaction for an increase in the corresponding explanatory variable whilst keeping all other explanatory variables constant.

Table 3.6.: Regression table of patient satisfaction by assurance of the respondent

Regression						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.887 ^a	.787	.784	.33840		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	41.385	1	41.385	361.389	.000 ^b
	Residual	11.223	98	.115		
	Total	52.608	99			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
3	(Constant)	.732	.127		5.789	.000
	Assurance	.709	.037	.887	19.010	.000

The R^2 value is 78.7% which is quiet higher. The significant value is at .000 which is less than 0.05 therefore the null hypothesis **H03** is rejected and alternative hypothesis is accepted. Thus, it proves that the factor assurance and its perceived level of delivered service quality are statistically dependent of each other. Examining the Unstandardized Coefficients, the fitted model to predict expected patient satisfaction is:

$$\text{Patient satisfaction} = .732 + 0.709 \times \text{Assurance}$$

It represents the impact of patient satisfaction for an increase in the corresponding explanatory variable whilst keeping all other explanatory variables constant.

Table 3.7.: Regression table of patient satisfaction by empathy of the respondent

Regression				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.697 ^a	.486	.481	.52521

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	25.575	1	25.575	92.712	.000 ^b
	Residual	27.033	98	.276		
	Total	52.608	99			

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
3	(Constant)	1.215	.198		6.147	.000
	Empathy	.650	.067	.697	9.629	.000

The R² value is 48.6% which is relatively low. The significant value is at .000 which is less than 0.05 therefore the null hypothesis **H04** is rejected and alternative hypothesis is accepted. Thus, it proves that the factor empathy and its perceived level of delivered service quality are statistically dependent of each other. Examining the Unstandardized Coefficients, the fitted model to predict expected patient satisfaction is:

$$\text{Patient satisfaction} = 1.215 + 0.650 \times \text{Empathy}$$

It represents the impact of patient satisfaction for an increase in the corresponding explanatory variable whilst keeping all other explanatory variables constant.

Table 3.8 Regression table of patient satisfaction by tangible of the respondent

Regression				
Model	R	R Square	Adjusted R Square	Std. Error Of The Estimate
1	.850 ^a	.723	.720	.38591

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	38.013	1	38.013	255.244	.000 ^b
	Residual	14.595	98	.149		
	Total	52.608	99			

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
3	(Constant)	.910	.139		6.524	.000
	Tangible	.666	.042	.850	15.976	.000

The R² value is 72.3% which is relatively higher. The significant value is at .000 which is less than 0.05 therefore the null hypothesis **H₀₅** is rejected and alternative hypothesis is accepted. Thus, it proves that the factor tangible and its perceived level of delivered service quality are statistically dependent of each other. Examining the Unstandardized Coefficients, the fitted model to predict expected patient satisfaction is:

$$\text{Patient satisfaction} = 1.215 + 0.666 \times \text{Tangible}$$

It represents the impact of patient satisfaction for an increase in the corresponding explanatory variable whilst keeping all other explanatory variables constant.

Table 3.9: Regression table of patient satisfaction by gender of the respondent.

Regression						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.144 ^a	.021	.011	.72509		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	1.083	1	1.083	2.061	.154 ^b
	Residual	51.524	98	.526		
	Total	52.608	99			

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
3	(Constant)	3.358	.227		14.813	.000
	Gender	-.208	.145	-.144	-1.435	.154

The R² value is 21% which is relatively fair in social science research. The significant value is at .154 which is more than 0.05 therefore the null hypothesis **H06** is accepted. Thus, it proves that the gender of the respondent and their perceived level of delivered service quality are statistically independent of each other. Examining the Unstandardized Coefficients, the fitted model to predict expected patient satisfaction is:

$$\text{Patient satisfaction} = 3.358 - .208 \times \text{Gender}$$

It represents the impact of patient satisfaction for one unit decrease in the corresponding explanatory variable whilst keeping all other explanatory variables constant.

Table 3.10: Regression table of patient satisfaction by age of the respondent

Regression						
Model	R	R Square	Adjusted R Square	Std. Error Of The Estimate		
1	.148 ^a	.022	.012	.72463		
ANOVA						
Model		Sum Of Squares	Df	Mean Square	F	Sig.
2	Regression	1.150	1	1.150	2.190	.142 ^b
	Residual	51.458	98	.525		
	Total	52.608	99			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
3	(Constant)	2.749	.216		12.735	.000
	Age	.131	.089	.148	1.480	.142

The R^2 value is 22% which is relatively fair. The significant value is at 0.142 which is more than 0.05 therefore the null hypothesis **H07** is accepted and alternative hypothesis is rejected. Thus, it proves that age of the respondent and their perceived level of delivered service quality are statistically independent of each other. Examining the Unstandardized Coefficients, the fitted model to predict expected patient satisfaction is:

$$\text{Patient satisfaction} = 2.749 + 0.131 \times \text{Age}$$

It represents the impact of patient satisfaction for an increase in the corresponding explanatory variable whilst keeping all other explanatory variables constant.

4. CONCLUSION

After conducting the data analysis, the present researcher has come up with major key findings. The data collected suggest that, all the dimensions of service quality i.e. responsiveness, reliability, assurance, empathy and tangibility are positively correlated with respondent's perception on service quality offered by private hospitals at Kathmandu Valley. The factor tangibility and assurance are strongly correlated in perceived service quality offered by private hospitals whereas the factor empathy and reliability are least correlated. The patient's perception on service quality of private hospitals at Kathmandu valley is not influenced by respondent's gender and age. This means the patient perception on delivered quality service is independent to respondent's gender and age.

The patient's perception on delivered service quality of private hospitals at Kathmandu valley is influenced by service quality factors namely responsiveness, reliability, assurance, empathy and tangibility. This means the patient perception on delivered quality service is dependent to all the SERVQUAL factors.

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