Dissemination

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1. Dubey, P., & Sahu, S. K. (2019). The Mediating Effect of Service Quality in the Link between Perceived Value and Customer Loyalty in Selected Hospitals of Chhattisgarh, *Journal of Advanced Research in Dynamical and Control Systems 11(10-special issue),* 953-963.

2. Dubey, P., & Sahu, S. K. (2019). Effect of Perceived Value on Customer Satisfaction, Loyalty and Service Quality of Selected Hospitals in Chhattisgarh. *International Journal of Recent Technology and Engineering 8(3s2), 58-64.*

3. Dubey, P., & Sahu, S. K. (2019). Public and Private Healthcare Services of Selected Hospitals: A Comparative Study. *Test Engineering and Management 86(5-6),*12614 – 12626.

UGC List Journals

1. Dubey, P., & Sahu, S. K. (2019). Effect of Service Quality on Customer Satisfaction and Loyalty of customers: A study on Selected Hospitals in Chhattisgarh. *International journal of computer science and Engineering*, 7(3),55-62.

International Conferences

1. Pushkar Dubey & Satish Kumar Sahu, (2018). Effect of Perceived Value on Customer Satisfaction, Loyalty and Service Quality of Selected Hospitals in Chhattisgarh. International Conference on Innovation Research in Science, Management and Technology (ICIRSMT-2018). Organised by, Bilaspur University and Association with MTM, USA & In Collaboration with University of Maryland.

2. Pushkar Dubey & Satish Kumar Sahu, (2019). The Mediating Effect of Service Quality in the Link between Perceived Value and Customer Loyalty in Selected Hospitals of Chhattisgarh, International Conference on Information Technology and Management for Sustainable Development (ICEMTSD-2019). Jointly Organised by Life Way Tech India and Uttaranchal Institute of Management, Uttaranchal University Dehradun. Uttarakhand.

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Effect of Service Quality on Perceived Value, Satisfaction and Loyalty of Customers: A Study on Selected Hospitals of Chhattisgarh

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Abstract—The aim of the study was to predict the effect of service quality on perceived value, customer satisfaction and customer loyalty in hospitals of Chhattisgarh. A 22 item scale (under five dimensions namely tangibility, reliability, responsiveness, assurance, empathy) of service performance developed by Cronin and Taylor, 1994 was used to access the service quality of hospitals under study. Self-structured questionnaire was administered for measuring the perceived value, customer satisfaction and customer loyalty of hospitals under study. Data collection was made with the help of 120 respondents having fulfilled the inclusion criteria of research. Five different hospitals were chosen for the purpose of the study. Purposive sampling technique for data collection. The hypothetical model was evaluated by the help of structural equation modelling and the result was a good model fit. The result concludes that service quality has positive and direct effect on customers perceived value, customer's satisfaction and customer loyalty in hospitals of Chhattisgarh.

Keywords—Service quality, perceived value, customer satisfaction customer loyalty, Structural equation modelling

I. INTRODUCTION

Health is the biggest wealth for a human being. Without sound health one cannot fulfil other amenities in his personal and professional life. In the event of disturbance of health one eyes towards the health care centers which offers services related to health cures. Health care centers in the form of hospitals thus acquires a prominent position in the society. The choice of health centers for a customer is not easy and one has to undergo lot of brainstorming process. The choice of health centers is also dependent on the kind of treatment one has to undergo. Hospitals or health care system is a service system where customers in the form of patients enter to avail services. The behavioral sensitivity is high enough since it is directly related to individual's life. Thus decision making process is imperative for the customers in this service system. Usually customer's decision making is quick with respect to primary treatment which requires less degree of specialization, however for higher degree of health setback where one has to receive treatment staying at the hospital for longer period, the decision making becomes critical. The treatment received from the hospital has unique set of service which creates impact in the minds of customers. The assessment of service quality can make the customers more loyal to a particular service and feels more satisfied. Service quality can also enhance value to the customers for re-entering into a service system.

A. OPERATIONAL DEFINITION

The variables under study are service quality, perceived value, customer satisfaction and customer loyalty. The operational definitions of the variables are as under:

- Service quality: In contemporary conceptualisation, service quality is a comparison of perceived expectations (E) of a service with perceived performance (P), giving rise to the equation SQ=P-E[1].This conceptualisation of service quality has its origins in the expectancy-disconfirmation paradigm[2].

- Perceived value: Perceived value is the evaluated value that a customer perceives to obtain by buying a product. It is the difference between the total obtained benefits according to the customer perception and the cost that he had to pay for that. Customer perceived value is seen in terms of satisfaction of needs a product or service can offer to a potential customer. The customer will buy the same product again only if he perceives to be getting some value out of the product.

- Customer satisfaction: It is a measure of how products and services supplied by a company meet or surpass customer expectation. It is defined as the number of customers, or percentage of total customers, whose reported experience with a firm, its products, or its services (ratings) exceeds specified satisfaction goals.

- Customer loyalty: It refers to attitudinal and behavioural tendency to favour one brand over all others, whether

due to satisfaction with the product or service, its convenience or performance, or simply familiarity and comfort with the brand.

II. RELATED WORK

There has been increasing interest in hospital services, as standards of living have changed and there is a demand for better medical care to improve lifestyles[3,4]. Improving the quality of medical care services has become a primary concern for patients, and, in order to provide better service to patients, service quality has become increasingly important for hospitals in respect of satisfying and retaining patients. Past literature identifies relationship between service quality and customer satisfaction. High quality of service will lead to higher satisfaction[5,6 ,7]. One of the most impactful factors of customer satisfaction is service quality[8,9,10]. The patient's perception of the service quality plays an imperative role in showing customer satisfaction and the causal relationship between the service quality and satisfaction has been an important topic of discussion in many relevant studies[11,12]. In healthcare service industry, the service quality –satisfaction relationship has received significant research attention[13,14]. The service quality has a direct effect on satisfaction, has been widely accepted [8,15]. Some studies also shows that the quality of the relationship between patients and doctors has a considerable impact on the patient satisfaction measure[16,17,4]. For the hospitals, satisfied patients are important because the patients' greater satisfaction with the care would entail the patients' more adherence of the doctor's orders, more loyalty, positive word of mouth by the patient, reducing the number of the patient's complaints, higher profitability, higher rates of the patient return and more patient referrals[11,18,19]. Study identifies thathospitals that fail to understand the importance of delivering service quality and customer satisfaction may be inviting a possible loss of patients[20,21]. Service quality is often seen as the customers' satisfaction originator[22,23,24]. The disconfirmation theory postulates that disconfirmation is the primary determinant of consumer satisfaction. This disconfirmation model is the most popular satisfaction model used across industry[25,26,27,28]. The loyalty of existing customers is very important, since it was calculated that the attraction of new customers is much more expensive than the retention of existing ones[29,30,31,32,33]. Research proved that a seemingly low gap of customers' satisfaction determines a significant gap in loyalty strength[34].Quality of service is antecedent to customer satisfaction irrespective of whether the constructs are transaction specific or cumulative[35].Study identifies that over all service quality, from the patients ‟perspective, requires clinical staff demonstration respect, empathy, and concern, as well as more traditional courtesy and professional skills as well as service attitude[36].The promotion of medical service quality to satisfy patients demands should be a primary aim for hospitals that seek to

be more successful[37]. studies show converging evidence of a positivity effect in customers‟ perceptions about service providers[38]. Studies also identifies perceived service quality as a cognitive construct, consumer satisfaction is an affective one, and this suggests a causal relationship between these two constructs, in which service quality plays the role of an antecedent of consumer satisfaction[13]. Customer satisfaction is an important determinant of success and long-term survival in the health care industry has caught the providers' attention in the present competitive conditions[39]. The patient's perception of the service quality plays an important role in achieving customer satisfaction and the causal relationship between the service quality and satisfaction has been an important topic of discussion in many relevant studies[11,12,40].To achieve satisfaction, the patient should experience a service while the perceived service quality is not necessarily the result of an experience of a particular service[37]. If the perceived performance matches customer expectations of services, they are satisfied. If it does not, they are dissatisfied[25,41]. Concludes that the customers are (dis) satisfied only when they have perceived and experienced the services; this shows that the service quality evaluation has priority over the customers' satisfaction[42]. Therefore, the service quality is often seen as the customers' satisfaction antecedent [22,23,24]. And the notion that the service quality has a direct effect on satisfaction, has been widely accepted [8,15].Service quality and customer satisfaction are conceptually distinct but closely related constructs[43]. health care organization can achieve patient satisfaction by providing quality services; keeping in view patients' expectation and continuous improvement in the health care[44].SERVQUAL hadbeen applied in the study of different types of service industries, there were certain limitations and criticisms. Some of the widespread concerns were the 5-dimension configuration of the scale, the appropriateness of operationalizing service quality as the expectations-performances gap score, and the scale's applicability to a retail setting[45].The level of loyalty can change over time[46].Both service quality and customer satisfaction influenced customer loyalty intentions directly[47]. Service quality also affected customer loyalty intentions through overall satisfaction. The importance of service quality has been identified and its implementation increase organizational performance, customer satisfaction and loyalty in organisation[5,31,48,49,50,51,52]. Distinguishing between service quality as a cognitive construct and satisfaction as an affective construct suggests a causal order, that positions service quality as an antecedent to satisfaction[35,53,54].

There exists ample of studies which converge that service quality is the determinant of customers perceived value, satisfaction and loyalty. This study however is based on the customers who are related to hospitals. Although plenty of work have already been done in this subject, but similar

studies have not been undertaken in covering the scope of services in hospitals of Chhattisgarh state and therefore the researchers after identifying the gap in this area decided to undertake work in this area.

A. Conceptual Framework
Figure 1 below shows the conceptual framework of the study. Service quality is the core factor which behaves as a predicting variable in the study. The other three variables in the study namely perceived value, customer satisfaction and customer loyalty act as a dependent variable in the study. The Framework drawn in the study aims to measure the effect of the predicting variable i.e. service quality on the rest of the three criterion variables taken for the study.
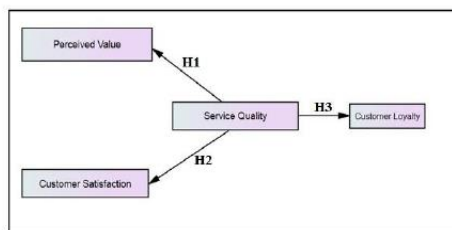

Figure 1. Conceptual Framework of the Study

B. OBJECTIVES OF STUDY
Following are the objectives of the study:

1. To predict the effect of service quality on perceived value in selected hospitals of Chhattisgarh.
2. To predict the effect of service quality on customer satisfaction in selected hospitals of Chhattisgarh.
3. To predict the effect of service quality on customer loyalty in selected hospitals of Chhattisgarh.

C. HYPOTHESES
Following stated hypothesis (in declarative form) will be subjected to test in the study:

H01: Service quality has direct effect onPerceived value.
H02: Service quality has direct effect on Customer satisfaction.
H03: Service quality has direct effect on customer loyalty.

III. METHODOLOGY

A. Participants
The study was conducted from March 2018 to May 2018. The sample size of the study constitutes of 120 participants among 4 district of Chhattisgarh state.The inclusion criteria for the participants of the study were patients who have went earlier to the hospitals for treatment and have spent at least one day in the hospital for treatment.Respondents were patients who were not necessarily in patients at the hospital. Both government and private hospitals were considered for the study.Five different hospitals were chosen on random basis for the purpose of data collection.

B. Measure of the Study
Questionnaire was the instrument used for collection of primary data in the study. A 22 item scale (under five dimensions namely tangibility, reliability, responsiveness, assurance, empathy) of service performance developed by [55] was used to access the service quality of hospitals under study. Self-structured questionnaire was administered for measuring the perceived value (15 items), customer satisfaction (5items) and customer loyalty (7 items) of hospitals under study. Purposive sampling technique for data collection.

Reliability test was administered by the researcher to find how strongly the attributes were related to each other[56]. Structural equation model (SEM) was performed to evaluate relationship between structural paths and the factors using AMOS 24.0 licensed version

IV. RESULTS AND DISCUSSION

A. Item Analysis& Reliability Statistics
Table 1 presents the result of item analysis and reliability statistics for the factors under study. The corrected item total correlation of higher than 0.40. The inter item total correlation all the items were of 0.40 or higher value. The value of inter-item correlation for perceived value was 0.410-0.886, customer satisfaction 0.703-0.909, service quality 0.400-0.837, customer loyalty 0.401-0.9

The overall reliability statistics for 49 items under study was found to be 0.972. The reliability statistics for factor perceived value (0.885), customer satisfaction (0.928), service quality (0.923) and customer loyalty (0.929) were found.

Table 1. Corrected items-total correlations of factors under study

Item-Total Statistics			Reliability Statistics	
Factors	Items	Corrected Item-Total Correlation	Cronbach's Alpha	No. of Items
Perceived Value	PV1	0.886	0.885	15
	PV2	0.718		
	PV3	0.444		
	PV4	0.410		
	PV5	0.439		
	PV6	0.636		
	PV7	0.575		
	PV8	0.680		
	PV9	0.826		
	PV10	0.714		
	PV11	0.902		
	PV12	0.382		
	PV13	0.573		
	PV14	0.642		
	PV15	0.762		
Customer Satisfaction	CS1	0.703	0.928	5
	CS2	0.860		
	CS3	0.794		
	CS4	0.909		
	CS5	0.849		

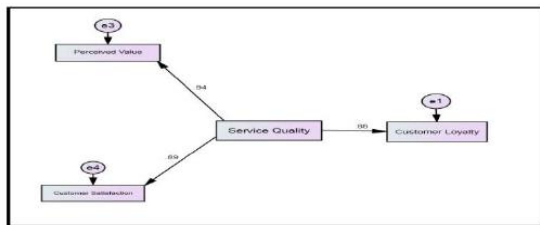|				
	SQ1	0.401		
	SQ2	0.353		
	SQ3	0.448		
	SQ4	0.445		
	SQ5	0.813		
	SQ6	0.740		
	SQ7	0.698		
	SQ8	0.813		
	SQ9	0.701		
	SQ10	0.402		
Service Quality	SQ11	0.522	0.923	22
	SQ12	0.703		
	SQ13	0.740		
	SQ14	0.591		
	SQ15	0.726		
	SQ16	0.400		
	SQ17	0.573		
	SQ18	0.628		
	SQ19	0.419		
	SQ20	0.667		
	SQ21	0.837		
	SQ22	0.494		
	CL1	0.840		
	CL2	0.401		
	CL3	0.899		
Customer Loyalty	CL4	0.933	0.929	7
	CL5	0.892		
	CL6	0.865		
	CL7	0.721		

Figure 2. Path Diagram Service quality on Perceived value, Customer Satisfaction and Customer Loyalty

Figure 2 represents the causal relationship between independent and dependent variable. All the path coefficient are found to be significant at p < 0.05 as indicated in table 2. Table 3 shows the standardised regression estimates of service quality on perceived value, customer loyalty and customer satisfaction dimension. Service quality ($\beta = 0.938$, p = 0.000) is found to exert strongest influence on perceived value followed by service quality ($\beta = 0.888$, p = 0.000) on customer satisfaction and service quality ($\beta = 0.876$, p = 0.000) on customer loyalty. Hence hypothesis (H1) which postulates Service quality has direct effect on Perceived value, (H2) Service quality has direct effect on Customer satisfaction and (H03) Service quality has direct effect on customer loyalty is supported in the study.

Table 4 depicts the outcome of path analysis and decision on model goodness of fit. The model chi-square (x^2) indicates a good model fit at p > 0.05 and x^2/df value ranging between 1 and 3 [57], RMSEA is found to be a perfect fit with the value falling well below the threshold limit of 0.05 [58]. The GFI statistics is found to be greater than the upper limit of 0.90, indicating a good fit. Among the incremental fit indices CFI and NFI are observed to have greater value than the threshold limit [59]. Based on the acceptable fit indices in structural model, it can be said that the model is found to be a good fit and thus can be effectively used to explain the effect of Service quality on perceived value, customer satisfaction and customer loyalty.

Table 2: Estimates and P Value

Regression Weights: Estimates and P Value

			Estimate	S.E.	C.R.	P
Perceived Value	<---	Service Quality	1.289	0.123	10.474	***
Customer Satisfaction	<---	Service Quality	0.344	0.046	7.486	***
Customer Loyalty	<---	Service Quality	0.53	0.075	7.037	***

Table 3: Standardized regression weights and result of hypothesis Testing

Standardized Regression Weights

			Estimate	Hypothesis
Perceived Value	<---	Service Quality	0.938	Supported
Customer Satisfaction	<---	Service Quality	0.888	Supported
Customer Loyalty	<---	Service Quality	0.876	Supported

Table 4 Result of Path Analysis (Decision on model goodness of fit)

Indicates	Satisfactory levels	Obtained value
Absolute Indices		
x^2	p > 0.05 [60].	0.013
x^2/df	< 3 [57].	2.51
RMSEA	< 0.070 [58].	0.051
GFI	> 0.950 [61].	0.961
Comparative fit indices		
NFI	> 0.950 [59].	0.914
CFI	> 0.950 [50].	0.90
Decision- Good fit Model		

V.   CONCLUSION

The purpose of the study to predict the effect of service quality on perceived value, customer satisfaction and customer loyalty in selected hospitals of Chhattisgarh. The result of this study confirms the existence of a positive relationship between service quality on perceived value, customer satisfaction and customer loyalty. The result of the study is found to be consistent with past studies. The direct positive effect of service quality on perceived value in the selected hospitals of Chhattisgarh finds conformity with similar   studies   undertaken   in   the

past[62,63,64,65,66,67,68,69,70,71,72,73,74,75]. Service quality is also positively and directly linked to customer satisfaction[5,8,20,22,50,76,77,78,79,80,81,82,83,84,85,86,87,88].and customer Loyalty[89,90,91,92,93,94,95,96,97]. in selected hospitals of Chhattisgarh which is found to be in the line of past outcomes. Thus the outcome suggests that maintaining high quality of services in the hospitals can significantly increase the perception of values among the customers, it can also be helpful in raising the goodwill of the customers in the form of loyalty and can provide high level of satisfaction. From managerial point of view, the outcome insures that hospitals across Chhattisgarh can focus more on the qualitative aspects of service which can inculcate customer satisfaction and retention.

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The Mediating Effect of Service Quality in the Link between Perceived Value and Customer Loyalty in Selected Hospitals of Chhattisgarh

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Abstract— The present study aims to find the mediating role of service quality in association between perceived value and customer loyalty in selected hospitals of Chhattisgarh state. With the help of 400 sample, respondent's data were collected with structured questionnaires from five different hospitals each from public and private sectors undertakings. Purposive sampling technique was adopted for collection of data with predefined inclusion criteria. Covariance based Structural equation modelling (SEM) was performed to empirically test the conceptual model by the use of smart PLS v3 (trial) software. The study outcome confirmed that service quality dimension mediated the association between perceived value and loyalty of the customers in hospitals of Chhattisgarh. Sub dimensions of service quality in the form of tangibility, responsiveness and reliability were found significant in as mediator, whereas the sub dimension assurance and empathy were found to be insignificant as mediator.

Keywords— Hospital, Service Quality, Perceived Value, Customer Loyalty.

I. Introduction

Health of an individual is the foremost and crucial aspect for human being. It is considered as an asset for survival. Across the entire tenure of life, health of as individual does not always remain in the static condition. It undergoes transformation is the sense that sometimes we stay fit and healthy and sometimes we fall ill and go unfit. In order to stay fit heath care sector plays a pivotal role.

The healthcare industry is the backbone of any nation's wellbeing. Therefore understanding the health care setting from its various viewpoint is imperative for its effective design and development of needful services. The present study aims to investigate the health care sector in the state of Chhattisgarh, India by studying the association between the element of perceived value of the customers, the offered services in the form of service quality of selected hospitals in the state and the satisfaction of the customers availing the services. Perceived value in customer's terms can be stated in as the total benefit received by the customers after availing the service by the total cost they pay for the service.

Service quality reveals the intensity of the offered or delivered services which in turn meets the expectations of the customers availing the services [1]. Service quality dimension comprises of tangibility, reliability, responsiveness, assurance and empathy. Tangibility includes all the physical facilities of the service quality and may include the equipment, appearance etc. Reliability is the competence of the supplier of the services to execute the assured services to the customers in a perfect way.

Responsiveness is the watchfulness of the firm to assist customers with nippy services. Assurance is the behavioural component of service quality, which imbibe faith and loyalty in the customers. Empathy is the loving and personalised consideration provided by the service firm to the customers. Satisfaction is the customer's general opinion of the services availed which is given by the service provider [2].

II. Literature Review

Review of available literature is presented in table 1 where relevant studies by the authors on various dimensions on the basis of their effect and relationship is shown.

Table 1: Review of Literature

S.N.	Variables of study	Related work
1	Relationship between service quality and perceived value	[3]-[18]
2	Relationship between perceived value and customer loyalty	[16],[19]-[29]
3	Relationship between service quality and customer loyalty	[30]-[40]
4	Service quality dimension mediates the link between perceived value and customer loyalty	[41]-[50]

III. Research Gap

In the lights of the accessible literature, it is evident that service quality vital component which effects and is effected by the consumer perceived value and loyalty factor. Moreover, findings of earlier studies also reveal that service quality can act as a mediator between the other factors. Literature suggested that ample of work has already been done in health care sector and in other sectors; attempts were made to find out the direct relationship between these variables. However a very few literatures were found where service quality construct was kept as a mediating variable moreover such work were not previously done in the health care setting of Chhattisgarh state which further calls for gap in this area. Thus, the work is novel in sense that the study conceptualizes the service quality construct as a mediator, connecting perceived value and customer loyalty construct in a new heath care setting of Chhattisgarh state.

IV. Research Methodology

A. Hypothetical Framework

Based on the literature and the gap, we propose the following hypothetical model shown in the Figure 1, which aims to figure the interrelationship between perceived value of the customers of hospitals, the service quality offered by the service provider of the hospitals and the customer satisfaction after availing the services of the hospitals. We propose that satisfaction of the customers has direct and positive association with service quality, and service quality dimensions (reliability, empathy, tangibility, responsiveness and assurance) mediates the association, linking perceived value and customer's satisfaction in hospitals of Chhattisgarh.
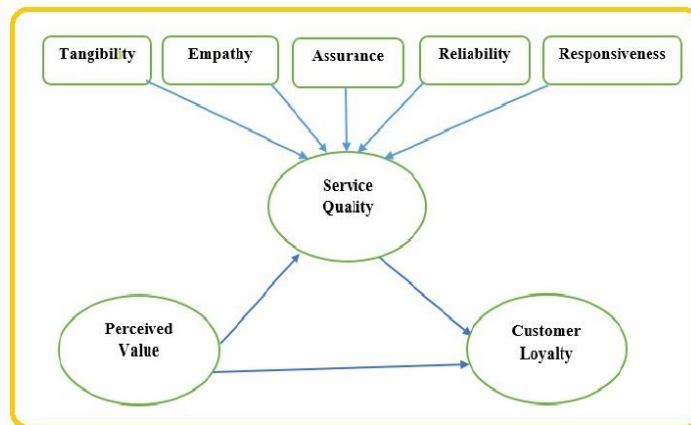

Figure 1: Conceptual Framework

B. Research Framework

The sample size of the study constitutes of 400 participants among 4 district of Chhattisgarh state namely Bilaspur, Raipur, Durg and Korba. Purposive sampling technique was adopted for data collection. The inclusion criteria for the participants of the study were patients who have went earlier to the hospitals for treatment and have spent at least one day in the hospital for treatment. Respondents were patients who were not necessarily in patients at the hospital. Both government and private hospitals were considered for the study.

Ten different hospitals were selected on the basis of infrastructural amenities i.e. availability of 100 or more beds, the instrument used for data collection consists of service quality scale consisting of 22 items develop by Cronin & Taylor, 1992 along with self-prepared questionnaire on perceived value and customer satisfaction. The items in the questionnaire was rated in a 7-point likert scale (1= very dissatisfied to 7= very satisfied). Covariance based structural equation modelling (SEM) was performed to test the direct and mediating effect with smart PLS v3 (trial) software. The demographic profile of the respondent (n= 400) with their frequency, mean, standard deviation (SD) and confidence interval (CI) is shown in table 2.

Table 2: Demographic Profile of the Respondents

Variables	Frequency	Percent	Mean	SD	CI [95%]
Age (Years)					
Under 20	11	2.8	34.0	0.786	33.72-35.52
21-30	152	38.0			
31-40	183	45.8			
41-50	45	11.3			
50-60	9	2.1			
Gender					
Male	244	61.0	1.39	0.488	1.34-1.44
Female	156	39.0			
Education					
High School	29	7.2	3.4	1.067	3.30-3.51
10+2	48	12.0			
Graduate	100	25.0			
Postgraduate	179	44.8			
Others	44	11.0			
Profession					
Govt. Service	146	36.5	2.33	1.398	2.19-2.46
Private Service	120	30.0			
Business	50	12.5			
Cultivation	26	6.5			
Others	58	14.5			
Monthly Income					
Less than 15000	88	22.0	2.65	1.398	2.54-2.76
Rs 15001-25000	87	21.6			
Rs 25001-35000	102	25.6			
Above Rs 35000	123	30.8			
Type of Hospital Visited					
Government	200	50.0	1.5	0.501	1.45-1.55
Private	200	50.0			

Source: Own Analysis from primary data source

C. Hypotheses

H1: Service quality dimension mediates the association of perceived value and customer loyalty in hospitals of Chhattisgarh.

H2: Tangibility component of service quality mediates the association of perceived value and customer loyalty in hospitals of Chhattisgarh.

H3: Reliability component of service quality mediates the association of perceived value and customer loyalty in hospitals of Chhattisgarh.

H4: Responsiveness component of service quality mediates the association of perceived value and customer loyalty in hospitals of Chhattisgarh.

H5: Assurance component of service quality mediates the association of perceived value and customer loyalty in hospitals of Chhattisgarh.

H6: Empathy component of service quality mediates the association of perceived value and customer loyalty in hospitals of Chhattisgarh.

V. Analysis and Interpretation

The structural equation model was assessed on basis of inspecting criteria that are determined by the model. This involves evaluation of path coefficient, direct effect, t and p value measures. The validated data were analysed with smart PLS to construct variance based structural equation model for analysis. The procedure used was path modelling by the use of partial least square (PLS) method [51], [52]. Obtained coefficients, direct effects, etc. are depicted in table below:

H1: Service quality mediates the association of perceived value and customer loyalty.

Table 3: Direct and Indirect Effect between Perceived value and Customer Loyalty with service Quality as a Mediator

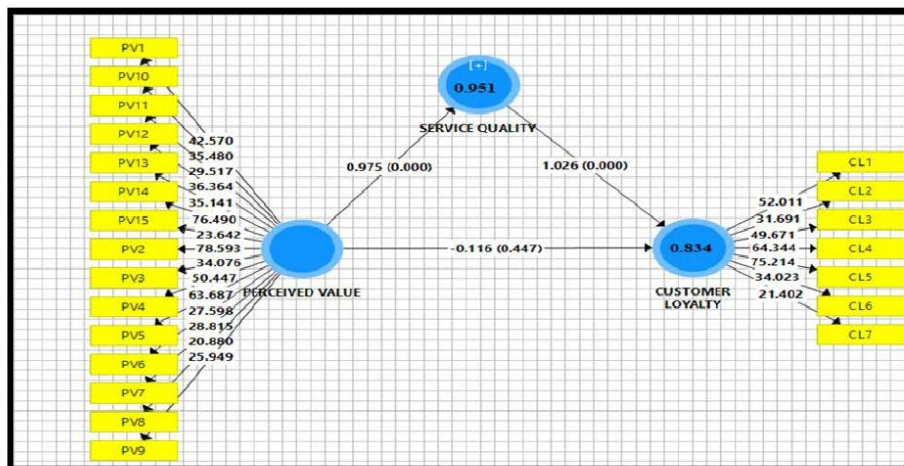| Effect	Path	Path coefficient	Indirect Effect	S.D.	Total Effect	VAF	t values	P values	Decision
Direct without mediator	P V -> C L	0.888*	Not applicable				65.858	0.000	Accepted
Indirect with mediator	P V -> C L	0.885	Not applicable	0.143	0.88435	113.1%	7.005	0.000	Accepted
	P V -> S Q	0.975*	1.00035						
	S Q -> C L	1.026*							

Figure 2: Mediating Effect of Service Quality as a Link between Perceived Value and Customer Loyalty

Firstly, the model was accessed without the interaction of mediator (Perceived Value → Customer loyalty) as shown in table 3. It was found that the direct path (Perceived value→Customer loyalty) was statistically significant (β= 0.888, t = 65.858, p= 0.000). The t value of indirect path (Perceived value → Service quality → Customer loyalty) is 1.00035/0.143 = 7.005, with p value of 0.000. It is found that service quality mediates the association between perceived value and customer loyalty.

Figure 2 elucidates service quality on relation between perceived value and customer loyalty. The indirect effect with mediator of Perceived value →Customer loyalty was found insignificant (β= -0.116, p= 0.447), Perceived value → Service quality (β= 0.975, p= 0.000) and Service quality → Customer loyalty (β= 1.026, p= 0.000) were found significant. VAF is computed by indirect effect/total effect *100. Table 3 revels that the value of VAF is 113.1%, concluding the fact that 113.1% of the effect of perceived value on customer loyalty is explained via service quality, thus service quality fully mediates the association of perceived value and customer loyalty.

H2: Tangibility component of service quality mediates the association of perceived value and customer loyalty.

Table 4: Direct and Indirect effect between perceived value and customer loyalty with tangibility as a mediator

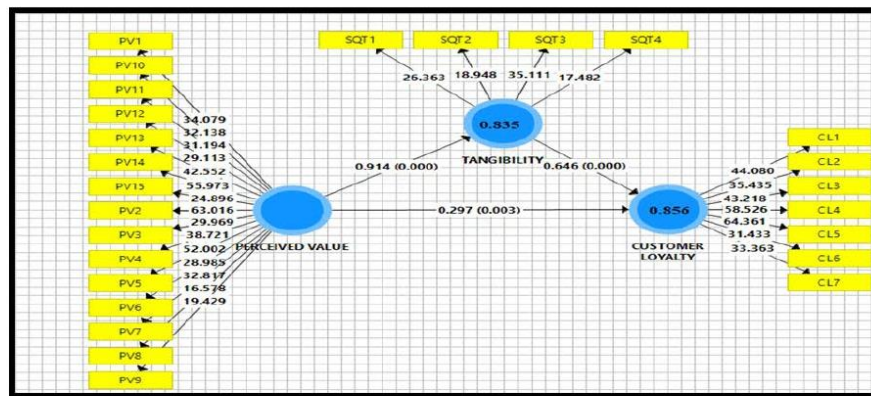| Effect	Path	Path coefficient β	Indirect Effect	S.D.	Total Effect	VAF	t values	P values	Decision
Direct without mediator	P V -> C L	0.883*	Not applicable				65.858	0.000	Accepted
Indirect with mediator	P V -> C L	0.297*	Not applicable	0.088	0.887444	65.53%	6.713	0.000	Accepted
	P V -> Tangibility	0.914*	0.590444						
	Tangibility -> C L	0.646*							

Figure 3: Mediating Effect of Tangibility in Association of Perceived Value and Customer Loyalty

Firstly, the model was accessed without the interaction of mediator (Perceived value → Customer loyalty) as shown in table 4. It was found that the direct path (Perceived value → Customer loyalty) was statistically significant (β= 0.883, t = 65.858, p= 0.000). The t value of indirect path (Perceived value → Tangibility → Customer loyalty) is 0.59044/0.088 = 6.713, with p value of 0.000. It is found that tangibility mediates the association of perceived value and customer loyalty. Figure 3 elucidates the tangibility on relation between perceived value and customer loyalty. The indirect effect with mediator of Perceived value →Customer loyalty was significant (β= 0.297, p= 0.003), Perceived value → Tangibility (β= 0.914, p= 0.000) and Tangibility → Customer loyalty (β= 0.646, p= 0.000) were statistically significant. VAF is computed by indirect effect/total effect *100. Table 4 revels that the value of VAF is 66.53%, concluding the fact that 66.53% of the effect of perceived value on customer loyalty through tangibility component of service quality and thus tangibility component of service quality partially mediates the association of perceived value and customer loyalty.

H3: Reliability component of service quality mediates the association of perceived value and customer loyalty

Table 5: Direct and Indirect Effect between Perceived Value and Customer Loyalty with Reliability as a Mediator

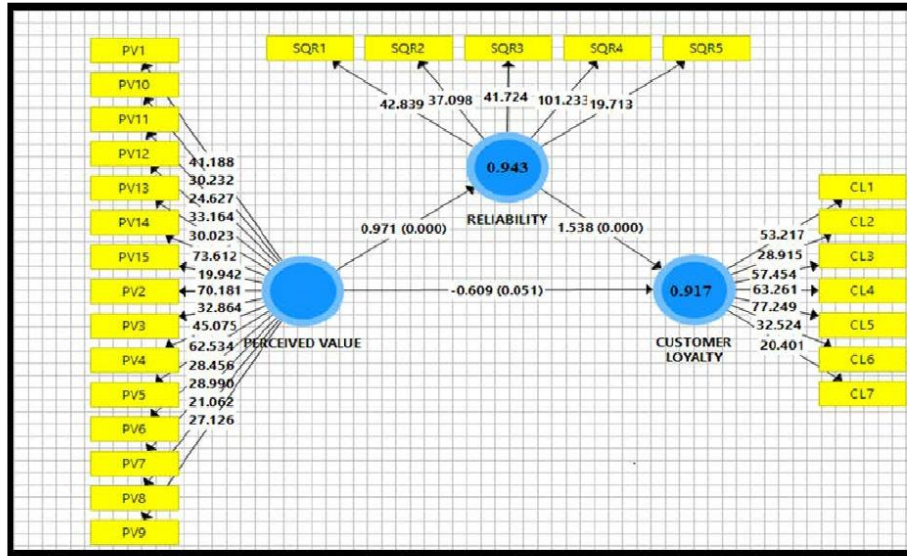| Effect	Path	Path coefficient β	Indirect Effect	S.D.	Total Effect	VAF	t values	P values	Decision
Direct without mediator	P V -> C L	0.883*	Not applicable				65.858	0.000	Accepted
Indirect with mediator	P V -> C L	-0.609	Not applicable	0.31	0.884398	168.86%	4.813	0.000	Accepted
	P V -> Reliability	0.971*	1.493398						
	Reliability -> C L	1.538*							

Figure 4: Mediating Effect of Reliability as a Link between Perceived Value and Customer Loyalty

Firstly, the model was accessed without the interaction of mediator (Perceived value→ Customer loyalty) as shown in table 5. It was found that the direct path (Perceived value → Customer loyalty) was statistically significant (β= 0.883, t = 65.858, p= 0.000). The t value of indirect path (Perceived value → Reliability → Customer loyalty) is 1.493398/0.31 = 4.813, with p value of 0.000. It is found that reliability mediates the association of perceived value and customer loyalty. Figure 4.

Illustrates reliability on relation between perceived value and customer loyalty. The indirect effect with mediator of Perceived value →Customer loyalty was not significant (β= -0.609, p= 0.051) while the effect of Perceived value → Reliability (β= 0.971, p= 0.000), Reliability → Customer loyalty (β= 1.538, p= 0.000) was also found significant. The indirect effect of Perceived value → Customer loyalty was statistically insignificant, it is a case of full mediation.

Table 5 revels that the value of VAF is 168.86%, concluding the fact that 168.86% of the effect of perceived value on customer loyalty through reliability component of service quality and thus reliability component of service quality fully mediates the association of perceived value and customer loyalty.

H4: Responsiveness component of service quality mediates the association of perceived value and customer loyalty.

Table 6: Direct and Indirect Effect between Perceived Value and Customer Loyalty with Responsiveness as a Mediator

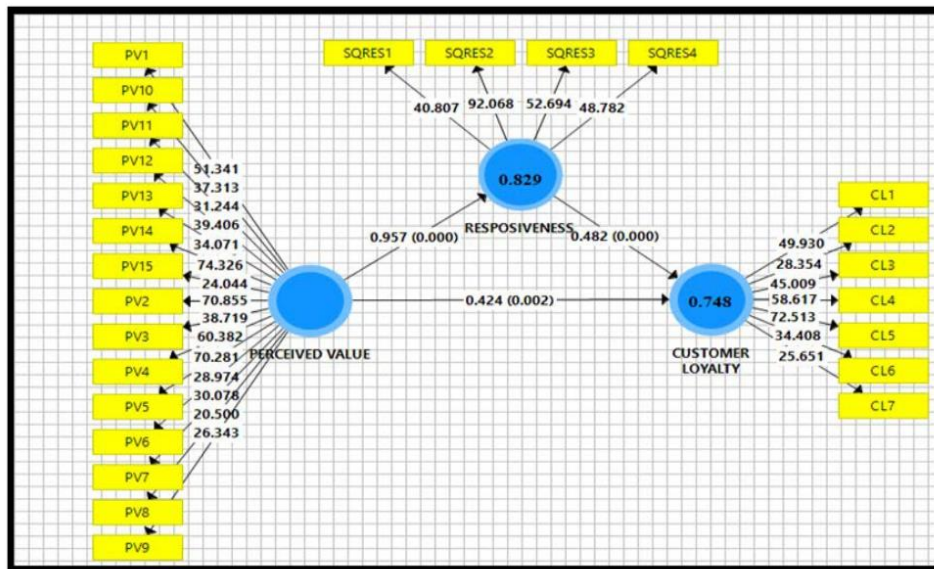| Effect	Path	Path coefficient	Indirect Effect	S.D.	Total Effect	VAF	t values	P values	Decision
Direct without mediator	P V -> C L	0.883*	Not applicable				76.00	0.000	Accepted
Indirect with mediator	P V -> C L	0.424*	Not applicable	0.133	0.885274	52.11%	3.457	0.001	Accepted
	P V->Responsiveness	0.957*	0.461274						
	Responsiveness ->CL	0.482*							

Figure 5: Mediating Effect of Responsiveness as a Link between Perceived Value and Customer Loyalty

Firstly, the model was accessed without the interaction of mediator (Perceived value→ Customer loyalty) as shown in table 6. It was found that the direct path (Perceived value → Customer loyalty) was statistically significant (β= 0.883, t = 65.858, p= 0.000).

The t value of indirect path (Perceived value → Responsiveness → Customer loyalty) is 0.461274/0.133 = 3.457, with p value of 0.001. It is found that responsiveness mediates the association of perceived value and customer loyalty. Figure 5 depicts responsiveness on relation between perceived value and customer loyalty.

The indirect effect with mediator of Perceived value →Customer loyalty was significant (β= 0.424, p= 0.002), Perceived value → Responsiveness (β= 0.957, p= 0.000), Responsiveness →Customer Loyalty (β= 0.482, p= 0.000) were statistically significant.

Table 6 revels that the value of VAF is 52.11%, concluding the fact that 52.11% of the effect of perceived value on customer loyalty through responsiveness component of service quality and thus responsiveness component of service quality partially mediates the association of perceived value and customer loyalty.

H5: Assurance component of service quality mediates association of perceived value and customer loyalty.

Table 7: Direct and Indirect Effect between Perceived Value and Customer Loyalty with Assurance as a Mediator

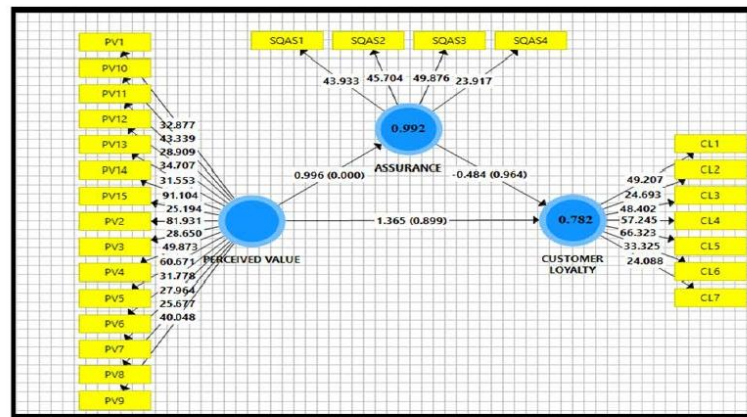| Effect	Path	Path coefficient	Indirect Effect	S.D.	Total Effect	VAF	t values	P values	Decision
Direct without mediator	P V -> C L	0.883*	Not applicable				65.858	0.000	Accepted
Indirect with mediator	P V -> C L	1.365	Not applicable	10.751	0.882936	-54.60%	0.045	0.0964	Rejected
	P V -> Assurance	0.996*	-0.482064						
	Assurance -> C L	-0.484							

Figure 6: Mediating effect of Assurance as a Link between Perceived Value and Customer Loyalty

Firstly, the model was accessed without the interaction of mediator (Perceived value→ Customer loyalty) as shown in table 7. It was found that the direct path (Perceived value→Customer loyalty) was statistically significant (β= 0.883, t = 65.858, p= 0.000). The t value of indirect path (Perceived value→ Assurance → Customer loyalty) is 0.482064/10.751=0.045 with p value of 0.964. It is found that assurance component of service quality does not mediate the association of perceived value and customer loyalty.

H6: Empathy component of service quality mediates the association of perceived value and customer loyalty.

Table 8: Direct and Indirect Effect between Perceived Value and Customer Loyalty with Empathy as a Mediator

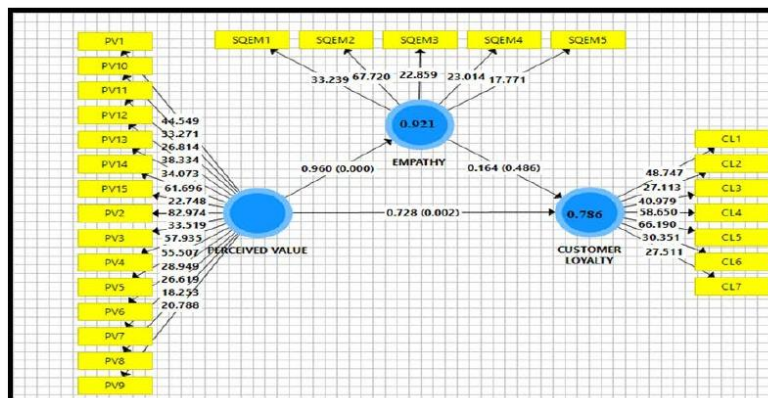| Effect	Path	Path coefficient	Indirect Effect	S.D.	Total Effect	VAF	t values	P values	Decision
Direct without mediator	P V -> C L	0.883*	Not applicable				76.00	0.000	Accepted
Indirect with mediator	P V -> C L	0.728*	Not applicable	0.227	0.88544	17.78%	0.695	0.0487	Rejected
	P V -> Empathy	0.960*	0.15744						
	Empathy -> C L	0.164							

Figure 7: Mediating Effect of Empathy as a Link between Perceived Value and Customer Loyalty

Firstly, the model was accessed without the interaction of mediator (Perceived value→ Customer loyalty) as shown in table 8. It was found that the direct path (Perceived value→Customer loyalty) was statistically significant (β= 0.883, t = 65.858, p= 0.000). The t value of indirect path (Perceived value→ Empathy→ Customer loyalty) is 0.15744/0.227 = 0.695, with p value of 0.587. It is found that empathy component of service quality does not mediate the association of perceived value and customer loyalty.

VI. Findings, Implications and Conclusion

A. Findings

1. Service quality fully mediates the association of perceived value and customer loyalty in hospitals of Chhattisgarh.
2. Tangibility component of service quality partially mediates the association of perceived value and customer loyalty in hospitals of Chhattisgarh.
3. Reliability component of service quality fully mediates the association of perceived value and customer loyalty in hospitals of Chhattisgarh.
4. Responsiveness component of service quality partially mediates association of perceived value and customer loyalty in hospitals of Chhattisgarh.
5. Assurance component of service quality does not mediate the link between perceived value and customer loyalty in hospitals of Chhattisgarh.
6. Empathy component of service quality does not mediate the link between perceived value and customer loyalty in hospitals of Chhattisgarh.

B. Implications

The result of the study have vital repercussion for managers of hospitals in the state of Chhattisgarh, especially in the essence of level of service quality they deliver. Component of customer loyalty can be developed by improving the service quality. Designing adequate strategies for enhancement of service quality component can create congenial environment for the growth and satisfaction of customers which can ultimately attract and retain customers in the long run business of the hospitals in the state.

C. Conclusion

Essence of service quality delivered by hospitals has effect on the satisfaction of the patients and the consumer of services. Perceived value recognition is directly and positively associated to customer's satisfaction in hospitals. Moreover, the mediation analysis proved that that the dimension reliability of service quality fully mediates the association of perceived value and customer satisfaction whereas tangibility and responsiveness partially mediates the association of perceived value and customer satisfaction. The dimension assurance and empathy were not found significant as a mediator. It can be fairly said that customer satisfaction in hospitals can be significantly improved by improving the intensity of reliability, tangibility and responsiveness.

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Effect of Perceived Value on Customer Satisfaction, Loyalty and Service Quality of Selected Hospitals in Chhattisgarh

Pushkar Dubey, Satish Kumar Sahu

Abstract: Health care sector in India has grown fast in the past few decades. The primary reason for existence of health care sector is to provide care for its patients and to satisfy their needs. Providing excellence in service is an imperative determinant for the escalation and development of health care units. The present study seeks to identify the effect of customers perceived value on customer satisfaction, loyalty and service quality of selected hospitals in the state of Chhattisgarh. With the help of 400 inpatient and outpatient sample respondent's data were collected from ten hospitals covering four districts of Chhattisgarh. Purposive sampling technique was adopted for data collection with structured questionnaire. Structured equation modelling was performed for data analysis with the help of smart PLS v3 (trial). The study outcome revealed that the dimension customer perceived value is found to have positive effect on service quality, customer satisfaction and customer loyalty in health care sector of Chhattisgarh. Perceived value is also found to positively predict the dimension of service quality including assurance, tangibility, reliability, responsiveness and empathy.

Index Terms: Customer loyalty, Customer satisfaction, Hospital, Perceived Value, Service quality

I. INTRODUCTION

Hospitals are the health care institutions which provides treatment with specialised medical services. It is one of the sector that acquires a prominent place in the service industry. The hospital industry has been in cut throat competition in the market in past decade [1]. Health care sector in India has a high growth rate since it attracts demand from both international and domestic patients [2]. Service sector has potential to earn profitability and hence has been an area of interest for the investors. The value of the health care market of India is US$65 billion. Presently health care sector is grooming and acts as a base for service sector. It is a sector of returns with strong national demand . The country spends 4% of its GDP on healthcare, with national health care expenditure of 25% [3]. Offered services are the amalgam of two parties which revolves around service providers and the consumers. Not all the services are tangible but a combination of both tangibles and intangibles component. With respect to health care it mostly constitutes of the intangible component [3]-[5]. Services offered by the health care are measured by the patients or the customers who avail them and on the basis of that they exhibit satisfaction. Customer/patient satisfaction is the degree to which customer feels contented with product and services offered by organisation which is an instrument for shaping customers repurchase intention and customer loyalty [6]. Service quality component for its enhancement can be related to strategic planning process and hence find a prominent place for the development in the health care sector [7],[8]. Literature suggests that service quality affects the behavior of consumer of services [9]. It can be stated in the form of benefits and costs. Mathematically it is the difference between the benefits (as per consumers perception) and the actual cost (which the consumers pay) from purchase of services [10]-[12]. Customer loyalty refers to patients' reassurance to revisit a hospital for obtaining further health-care services. Building loyalty is a long-term process [13]. Perceived value of the customers, services offered by firms and satisfaction and loyalty of customers tends to provide competitive advantage to the firm and contribute to the image of the organisation [14]. The service quality construct was given by Parsuraman, Zeithaml and Berry, 1984, 1988, 1994 followed the qualitative and quantitative research [15]-[17]. This measurement is widely accepted containing 22 items, also called as SERVIQUAL (service quality). The instrument measures service quality on five different dimensions i.e. tangibility, responsiveness, reliability, assurance and empathy. Tangibility is the components of physical facilities and equipment's. According to Zeithaml and Bitner, the customer experiences and their repurchase intention are affected by service quality, moreover they can help in formulation of suitable experiences [18]. Reliability can be defined in terms of promise made to the customers for delivering the service in a more efficient and accurate manner. In more simple term it is trustworthiness of information [19]. Responsiveness may be defined in terms of assistance provided to the customers for timely services [20]. Assurance is the belief and sureness with which the service provider inspires their customers. Empathy is the caring attitude, which seeks personal attention of the customer. Whereas knowledge and behaviour of employee with the ability to deliver trust and deal with users' request is the main idea of assurance [16] and is defined as caring and personalized attention that the firm provides to its product users [21].

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Model modification in the SERVQUAL (service quality) to SERVPERF (service performance) was made by Cronin and Taylor, 1994 which contains 22 items [22]. SERVPERF approach is a better tool for measurement of service quality than SERVQUAL.

II. REVIEW OF LITERATURE

There are ample to studies, which describes the relationship between perceived value, service quality, customer satisfaction and customer loyalty.

A. Perceived value in association between service quality and customer satisfaction

There are ample of literature showing the relationship between perceived value, service quality and customer satisfaction. Perceived value is found to be a partial mediator in between service quality and customer satisfaction [23], Customer satisfaction grounded with degree of value and perceived value is a key antecedent of satisfaction [24]. Perceived value is found as a intervening and moderating factor between service quality and customer satisfaction in multiple service industry [25]-[27]. Many studies in literature, which agreeably underline that equal weight is put in each with the effect of service quality and satisfaction and loyalty of customers [28]-[34]. Positive relationship of customer value with quality and satisfaction in restaurant service industry was also found [16].

B. Effect of Perceived value on Customer loyalty

Customer loyalty the aftermath of customer perceived value and encourages organization performance [35]. It also develops competitive advantage among firms [36]. The overall loyalty that the customers receive can be stated in terms of consumer's expectation and actual receiving of value [37]. Customer loyalty concept is driven by the theory that the customers firstly forms the expectation regarding the value they wish to receive from a particular service and after receiving the service if their expectation match his actual service performed that they tend to receive satisfaction or else feel dissatisfaction. When customer perceived value go above the anticipations of the customers, they feel satisfied [38], [39] and the repetition over a period of time leads to the creation of customer loyalty. [40]. Findings shows that both satisfaction and loyalty are correlated with customer perceived value [41],[42]. Perceived value has positive impact on patient loyalty have been supported in transport services [43]-[46]. In service industries like airline travel and retail customer perceived value is treated as a key component of loyalty [47]. Customer perceived value is a noteworthy precursor of customer loyalty in different sectors [48]-[50]. It is also found to have significant positive effect in e-business [51]-[54]. Many researchers have underline that perceived value positively and directly correlated with customer loyalty in hotel and internet services [25], [55]-[58]. High-perceived value could ominously raise customer loyalty [48].

C. Perceived value effect on Customer Satisfaction

According to Kotler and Keller, 2012 satisfaction is "a person's feelings of pleasure or disappointment resulting from comparing perceived products' performance (or outcome) in relation to his or her expectations" [12]. Dissatisfaction are the outcome of difference that exists between expected performance and actual performance, incase the difference is null, the customers feel satisfied, incase it exceeds expectation the customers feel delighted [12]. Customer perceived value significantly influence patient satisfaction in hospitals [35], [60], [61]. It is a direct path, and meaningfully affects the customer satisfaction [23],[24], [62]-[64]. Most of the studies supported the positive relationship between perceived value and customer satisfaction in various sectors of industries of India and abroad [35], [51], [65]-[73].

D. Effect of Perceived value on Service Quality

Literature also shows that perceived value and service quality are closely related to each other. There are numerous studies which shows that service quality positively influences perceived value in multiple service industries [14],[66],[67],[72]-[82].

III. RESEARCH METHODOLOGY

The hypothetical model proposed in the study is shown in figure 1, it shows the association between perceived value and others variables in the study. It is proposed that perceived value has direct effect on service quality, customer loyalty and customer satisfaction in hospitals of Chhattisgarh.

Fig 1: Conceptual Framework of Study

The factor service quality constructed of five constructs namely tangibility 4-items, reliability 5-items, responsiveness 4-items, assurance 4-items, and empathy 5-items, Factor perceived value constructed of 15 items, customer satisfaction with 5 items, and customer loyalty 7 items.

For sampling, the sample size of the study constitutes of 400 participants among four district of Chhattisgarh state. The inclusion criteria for the participants of the study were patients who went earlier to the hospitals for either general or surgical treatment and have spent at least one day in the hospital for treatments a patient. Respondents were patients who were not necessarily in patients at the hospital. Both inpatient and out-patients were included as sample respondent from both government and private hospitals. Ten different hospitals were chosen based on 100 plus beds, the instrument used for data collection consists of service quality scale consisting of 22 items develop by Cronin & Taylor 1992. Self-structured scale on perceived value (15 items) customer loyalty (7 items), and customer satisfaction (5 items) were used in the study. All the items were measured using 7-point Likert scale (1= very dissatisfied; 7= Very satisfied). For the analysis of data, SPSS v25 (Licensed) and, SMART PLS v3 trial software were used.

Hypotheses:

H1: Perceived value would be statistically significant in influencing customer satisfaction.

H2: Perceived value would be statistically significant in influencing customer loyalty.

H3: Perceived value would be statistically significant in influencing service quality.

H4: Perceived value would be statistically significant in influencing Assurance.

H5: Perceived value would be statistically significant in influencing Empathy.

H6: Perceived value would be statistically significant in influencing Reliability.

H7: Perceived value would be statistically significant in influencing Responsiveness.

H8: Perceived value would be statistically significant in influencing Tangibility.

The demographic profile of the respondent (n= 400) with their frequency, mean, standard deviation (SD) and confidence interval (CI) is shown in table 1.

Table 1: Demographic profile of the respondents

Variables	Frequency	Percent	Mean	SD	CI [95%]
Age (Years)					
Under 20	11	2.8	34.01	0.786	33.72-35.52
21-30	152	38.0			
31-40	183	45.8			
41-50	45	11.3			
50-60	9	2.1			
Gender					
Male	244	61.0	1.39	0.488	1.34-1.44
Female	156	39.0			
Education					
High School	29	7.2	3.4	1.067	3.30-3.51
10+2	48	12.0			
Graduate	100	25.0			
Postgraduate	179	44.8			
Others	44	11.0			
Profession					
Govt. Service	146	36.5			2.19-2.46
Private Service	120	30.0			
Business	50	12.5			
Cultivation	26	6.5			
Others	58	14.5			
Monthly Income					
Less than 15000	88	22.0	26045	1.398	25214-28001
Rs 15001-25000	87	21.6			
Rs 25001-35000	102	25.6			
Above Rs 35000	123	30.8			
Type of Hospital Visited					
Government	200	50.0	1.5	0.501	1.45-1.55
Private	200	50.0			

Source: own Analysis from primary data source

IV. RESULTS AND FINDING

All data after coding were entered into the statistical software were both measurement and structural models were evaluated.

A. Evaluation of measurement models

The model specified in the conceptual framework has four constructs with reflective measurement models, where estimates between their latent and manifest variables were examined. The outer loadings of all items used in this study are accepted. Table 2 reveals that customer loyalty (Cronbach's α = 0.953, CR= 0.954 and AVE= 0.747), similarly customer satisfaction (Cronbach's α = 0.919, CR= 0.920 and AVE = 0.698), perceived value (Cronbach's α = 0.971, CR= 0.971 and AVE= 0.688), assurance (Cronbach's α = 0.851, CR= 0.896 and AVE= 0.684), empathy (Cronbach's α = 0.891, CR= 0.899 and AVE= 0.628), Reliability (Cronbach's α= 0.909, CR= 0.912 and AVE= 0.675), responsiveness (Cronbach's α = 0.927, CR= 0.927 and AVE= 0.762) and tangibility (Cronbach's α = 0.865, CR= 0.866 and AVE= 0.618). The reliability measurement of construct is shown in table 2.

The reliability of Cronbach's α > 0.70 the constructs found to be acceptance [83], [84]. Since, CR > 0.70 is considered fair [85]. The AVE > 0.50 confirms the convergent validity of the construct [87].

Table: 2 Reliability measurement of the Constructs

Construct	Alpha	CR	AVE
Customer Loyalty	0.953	0.954	0.747
Customer Satisfaction	0.919	0.920	0.698
Perceived Value	0.971	0.971	0.688
Assurance	0.851	0.896	0.684
Empathy	0.891	0.899	0.628
Reliability	0.909	0.912	0.675
Responsiveness	0.927	0.927	0.762
Tangibility	0.865	0.866	0.618

B. Discriminant Validity

Discriminant validity checks whether two constructs in the study have statistical difference between each other. In other words it is used to find out the overlapping of two said constructs [83],[88],[89]. Table 3 demonstrates discriminant validity measurement of construct.

Table: 3 Discriminant Validity measurement of Construct

	Assurance	Customer Loyalty	Customer Satisfaction	Empathy	Perceived Value	Reliability	Responsiveness	Service Quality	Tangibility
Assurance	0.995								
Customer Loyalty	0.876	0.946							
Customer Satisfaction	0.842	0.943	0.928						
Empathy	0.944	0.862	0.775	0.997					
Perceived Value	0.827	0.883	0.843	0.959	0.975				
Reliability	0.823	0.864	0.852	0.957	0.843	0.975			
Responsiveness	0.977	0.887	0.835	0.812	0.957	0.921	0.931		
Service Quality	0.905	0.912	0.867	0.793	0.830	0.881	0.881	0.982	
Tangibility	0.908	0.913	0.870	0.810	0.875	0.872	0.873	0.807	0.786

The assessment of reliability and discriminant validity of the constructs shows that measurement model is fairly reliable and valid.

C. Evaluation of the structural model

The structural equation model was evaluated on basis of inspecting criteria that are determined by the model. This involves evaluation of path coefficient, direct effect, t and p value measures.

The validated data were analyzed with Smart PLS (trial) to construct variance based structural equation model for analysis. The procedure used was partial least square (PLS) path modelling [86],[87],[90]. Obtained coefficients, direct effects, etc. are depicted in table 4 and figure 2:

As demonstrated in table 4 all the path coefficients in the model have significant value indicating association between respective variables.

Based on the result in figure 2 and table 4; perceived value was found to be positively associated with customer satisfaction ($R^2 = 0.710$, $\beta = 0.843$, t = 40.49, $p < 0.01$) and explained 71% direct effect on the criterion variable customer loyalty. Perceived value also played a significant positive role and explained 78.0% direct effect on customer loyalty ($R^2 = 0.780$, $\beta = 0.883$, t = 59.960, $p < 0.01$). Similarly, perceived value played a significant positive role and explained 95.1% direct effect on service quality ($R^2 = 0.951$, $\beta = 0.975$, t = 294.066, $p < 0.01$). Furthermore, service quality dimension assurance and perceived value are positively associated with each other ($R^2 = 0.989$, $\beta = 0.995$, t = 152.337, $p < 0.01$), and explained 98% variances. Perceived value also played a significant positive role and explained 78% direct effect on tangibility ($R^2 = 0.831$, $\beta = 0.912$, t = 74.486, $p < 0.01$). Perceived value also played a significant positive role and explained 94.6% direct effect on reliability. ($R^2 = 0.946$, $\beta = 0.973$, t = 129.610, $p < 0.01$). Perceived value also played a significant positive role and explained 91.6% direct effect on responsiveness ($R^2 = 0.916$, $\beta = 0.975$, t = 155.661, $p < 0.01$). Similarly, perceived value played a significant positive role

and explained 92% direct effect on empathy ($R^2 = 0.920$, $\beta = 0.959$, t = 138.044, $p < 0.01$) Multicollinearity is not desirable. The value of variance inflation factor (VIF) was found 1.00 [68].

Table 4: Direct effect, Path coefficients (Total effect), T value and P value

| Variables	Direct effect (R Square)	Path coefficient (β)	T Value	P Value
Perceived Value-> Customer Satisfaction	0.710	0.843**	40.496	0.000
Perceived Value-> Customer Loyalty	0.780	0.883**	59.960	0.000
Perceived Value-> Service Quality	0.951	0.975**	294.066	0.000
Perceived Value -> Assurance	0.989	0.995**	152.377	0.000
Perceived Value-> Tangibility	0.831	0.912**	74.486	0.000
Perceived Value -> Reliability	0.946	0.973**	129.610	0.000
Perceived Value -> Responsiveness	0.916	0.957**	155.661	0.000
Perceived Value -> Empathy	0.920	0.959**	138.044	0.000
$p < 0.05*$, $p < 0.01**$				
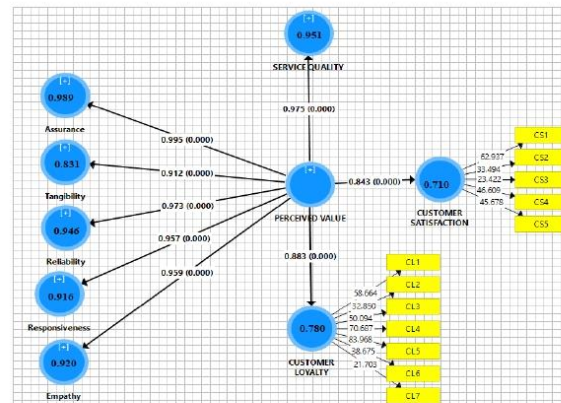
Figure 2: Structural equation model of all the variables

V. CONCLUSION AND DISCUSSION

The purpose of the study to predict the effect of service quality on perceived value, customer satisfaction and customer loyalty in hospitals of Chhattisgarh. The result of this study confirms the existence of a positive relationship between service quality on perceived value, customer satisfaction and customer loyalty. The study supports the first hypothesis of the study and finds that perceived value positively and statistical predicts customer satisfaction, which means that the customer expectation in relation to value they receive are well with in their satisfaction.

This finding is similar to that of outcomes of the past literatures [25],[44]-[46],[48]-[50],[55]-[57].The findings also support the second hypothesis and reveals that perceived value positive and significant influence customer loyalty, which indicates that customer expectation regarding hospital services builds on their loyalty. This outcome also consistent that of the work of preceding studies [35],[51],[65],[66],[70]-[72]. The finding also supported the third hypothesis and confirms that customer perceived value has positively and significant influence on service quality dimension, which means that customer perception of values is regarded with the formation of service quality measures on hospital of the state. Also perceived value is found significant and positive relation with components of the service quality constructs i.e. assurance, empathy, reliability, responsiveness and tangibility. This outcome is also supported with studies done is the past [66],[67],[72],[73],[79],[80],[82].

The outcome heavily draws managerial implication on the study. It suggests that on increase in the perceived value of the customer would result in increase in their satisfaction level and thereby generate high customer loyalty. On the other hand, perceived value also result in higher domain of service quality i.e. increase in assurance, empathy, reliability responsiveness and tangibility.

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Public and Private Healthcare Services of Selected Hospitals: A Comparative Study

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Abstract

Background- The presents study examinesthe nature of public and private hospitals service quality (SQ), customer satisfaction (CS),customer loyalty (CL) and perceived value (PV) of selected hospitals in Chhattisgarh state. The present study focused on service provided in government and private hospitals and examined the usefulness of quality indicesincluding perceived value, satisfaction and loyalty of the patients.

Design - The study sample consists of 400 respondents from ten selected (private and government) hospitals among 4 district of Chhattisgarh state, a service quality scale established by Cronin and Taylor in 1992 were used and for other dimensions self-structured survey questions wereimplementedwith purposive sampling technique.

Findings: The outcome of the study revealed that private and public healthcare differed in the terms service quality. Further differences were not found for customer satisfaction, customer loyalty and perceived value dimension.

Keywords: *Hospital, Service Quality(SQ) , Customer Satisfaction (CS), Perceived Value (PV), Customer Loyalty (CL).*

I.INTRODUCTION

Of late healthcare sector has emerged as one of the leading industries in India. The healthcare service sector provides both wealth and employment to the economy. It broadly covers hospitals, clinical research studies, medical services, outsourcing telemedicine, medical tourism, health insurance and medical facilities. The expansion of Indian healthcare sector is due to its wider coverage and increase expenditure on infrastructure and medical facilities. Public and private sector are the two main components of Indian healthcare system. The public healthcare system constituted of the primary healthcare centres which operates in the rural area whereas the secondary health care centres aims to deliver adequate healthcare services in major cities of India. Private healthcare industry concentrates on secondary, tertiary and quaternary treatment facilities in metro tier one and tier two cities. India gains a competitive advantage in terms of well-trained healthcare staff members. It also gives competitive cost advantage as compared to Asian countries.

Service Quality: Parasuraman, Zeithamland Berry (1988) defined quality as the difference between customer expectations and service perceptions in the quality dimension. Service quality is an indicator of how effective a quality of services made effective is fulfilling customer expectations. Service quality could be accomplished by meeting the customer's desires and delivery consistency to keep pace with customer needs (Lewis &Booms, 2007). Parasuraman, Zeithamland Berry (1988) identified five dimensions of service quality (viz. tangibles,

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reliability, responsiveness, assurance, and empathy) that link specific service characteristics to consumer's expectations. Tangibility is the physical facilities, equipment, and appearance of personnel of health care system. Reliability is the ability to accomplish the promised service consistently without error. Responsiveness is the readiness to help customers and provide speedyservice.Assurance refers to the intellect and actions of the patients of the hospitals and their ability to instil customer trust and loyalty. Empathy is the caring individualized attention for the customers.

Several researches inhospitals, banking and service sectors, have been widely using the SERVQUAL model (Andaleeb 2000; Zhu, Wymer& Chen 2002; Lewis &Park 2003; Mostafa, 2005; Sidani, Epstein & Miranda 2006; Awan, Bukhari & Iqbal, 2011; Al-Borie & Sheikh 2013; Raza, Jawaid& Hassan 2015 ;Abbad and Al-Hawary, 2014; Zarei, Daneshkohan, Pouragha, Marzban, & Arab 2015;Ahmed, Kazi Tarique, Ishtiaque 2017;Nachimuthu&Muthukrishnaveni2019).

Patient satisfaction: Patients satisfcaton is a function of service expect and performance perception in any given time. Patient satisfaction is commonly used for measuring the quality of service in the healthcare sector (Andaleeb 2001; Choi, Cho, Lee, S., Lee, & Kim, 2004 ; Fenton, Jerant, Bertakis& Franks2012; Manaf, Mohd, & Abdullah 2012; Azizan & Mohamed 2013).

Patient loyalty: Patient loyalty as a preemptive management plan to uphold long-term service quality for customers. This will lead to patient satisfaction and aspiration to repeat healthcare services. (Anbori, Ghani, Yadav, Daher& Su 2010). Patient loyalty is broadly used in the healthcare sector to determine service quality (Roberge, Beaulieu, Haddad, Lebeau, &Pineault, 2001; Mortazavi, Kazemi, Shirazi&Azizabadi 2009;Hu, Cheng,Chiu, & Hong 2011).

Percived value: The perceived value concept has been described as one of the most operational promotional and competitivesteps (Parasuraman, 1997), and has already been argued as one of the most important component of repurchase expectations (Parasuraman and Grewal, 2000).

Customer percived value used in heatlh care systems (Sweeney & Soutar 2001; Wang, Lo, & Yang 2004; Lin, Sher & Shih 2005) to acess the (CS) customer satisfaction and loyalty.

II.LITERATURE REVIEW

NaceurJabnoun, Mohammed and Chaker (2003) compared the hospitalscare services of public and private hospitals with dimension of service quality i.e. tangibles, reliability, empathy, administrative responsiveness and supporting skills. The results were highlighted for hospital administrator.The service quality private hospitals were found to be better than the government hospitals.

Siddiqui and Khandaker (2007) conduced survey on service quality factors of hospitals services. The results concluded that the level of service in private hospitals was significantly greater than in public nursing homes, the measurable hospital aspects were hygiene, provision of resources and availability of medicines.

Yesilada and Direktor (2010) pointed out the significant effect of service quality on public and private hospital services. Outcome of the study indicated that the empathy, tangibility and reliability were three key factors of customer satisfaction.

Irfan and Ijaz (2011)compared hospital service quality in both public and private hospitals in Burden, Pakistan. Private hospitals delivered better service quality to their customers, particularly for dimensions of tangibility and empathy.

Ramez (2012) indicated that patients' perception about the service quality, satisfaction and behavioural intention, identified responsiveness, empathy and tangible dimensions to have largest

influence on the overall service quality. The work also revealed a positive significant relationship between overall service quality, patients' satisfaction and their behavioural intention.

Khosravi and Anvari (2013) in their study on 385 customers of public and private hospitals of Tehran, using survey questionnaire found public and private hospitals of Tehran differed significantly, private hospitals patients were more contented than public hospitals.

Rout (2015) concluded that the people from low socio-economic are more prospective to visit private hospitalsthan government hospitals. For quality considerations, the probability of a visit to a government hospital is considerably reduced. In addition, people spend from their savings on medicines and diagnostic tests in the public health system. The study found, only physical access could not ensure greateroperationexcept consistency is confirmed in order to protect the preferences of the vulnerable in the public health care system.

Mustafi, Islam and Islam (2015)examined patients' satisfaction with healthcare services in Bangladesh. A service quality models were established on the expectation of patients about the hospital services. Equal differences have been assumed for each element. The findings showed that government hospitals were performing much better in providing high class services as compared to private hospitals.

Paul, Mittal and Srivastav (2016) compared the impact of public and private bank, customers service quality and overall satisfaction level. The study constituted with 500 respondents' 250 each from government and private bank in India.Service quality was not positively associated with the public and private banking customers.

Ayiah, Michael and Sherif (2016)studied public and private hospitals patients of Bawku, private hospitals delivered better service quality than the government hospitals. Public healthcare was easy to find out. On the other hand, private hospital provided healthy, neat and clean environment, furthermore nurses and medical staffs were well dressed and appeared neat than public medical staffs. As compared to public hospitals private hospitals have had less waiting time.

Raghuwanshi and Desai (2017)undertook a study on government and private hospitals in Indore, Madhya Pradesh to check-out the patient satisfaction with the services providers, a total of 66 hospitalized patients were taken, the study concluded that patients bear expectations before their visit and their real encounter with the service facilities results in satisfaction or discomfort.

Ahmed, Tarique and Ishtiaque (2017)conducteda study to identify the gap between service quality, patient satisfaction and patient loyalty of public and private healthcare sectors in Bangladesh.Outcomes indicated that, relative to married patients, single patients experienced higher tangibles, efficiency, empathy and loyalty. The authors found that patients in privatehospitals consider a greater performance in standard of healthcare facility compared with patients in public hospitals.

Alolayyan, Al-Hawary, Mohammad and Al-Nady (2018) in their study on service quality and customer satisfaction in Jordanian commercial banks,found that responsiveness and assurance was particularly important in the growth of customer satisfaction. Consumers were more satisfied with bank manager who provided higher service quality.

Nachimuthu and Muthukrishnaveni (2019) evaluated the service quality and association between customer satisfaction of banking industry in Tamil Naidu. Using SERVQUAL model with the sample of 521 respondents, the results found that public and private bank with service qualityattributes i.e. assurance, empathy, tangibility, reliability, and responses on customer satisfaction explained 63.9 percent of the variance.

Various studies in government hospitals revealed low quality of healthcare. Inadequate infrastructure limited availability of medicines, equipment's and low morale of staff influences the provision ofservices in government hospitals (World Bank, 2001; MOHFW, 2002; Mishra, Chatterjee & Rao, 2003).

High quality hospital services and excellent communication and good behaviour of nursing staff have been significant factors throughout the choice of hospitals patients and in enhancing the high level of satisfaction and use of services as reported across several study results (Gross &Chinitz 1995; Ellis, McInne& Stephenson 1994; Manzambi, Tellier, Bertrand, Albert, Reginster&Balen 2000).

There are other literature available which measures comparision between private and public hospitals (Taner& Antony 2006; Unalan, Tengilimoglu&Akdemir2009; Gregg, Grout, Ratcliffe, Smith & Windmeijer, 2009; Pillay, 2009; Owusu Frimpong, Nwankwo & Dason, 2010; Khattak, Alvi, Yousaf, Shah, Turial & Akhter, 2012; Zamil, Areiqat & Tailakh, 2012; Rugare, Mahachi, Mukwasi, Majonga & Karera, 2013; Yousapronpaiboon& Johnson, 2013).

Reseach Objectives: The present study access to indentify the gap between government and private hospitals by mesuring customer perceptionin terms of service quality, customer satisfaction,customer loyalty and perceived value dimensions in the state of Chhattisgarh.The theoretical framework of the study is presented in in figure1.

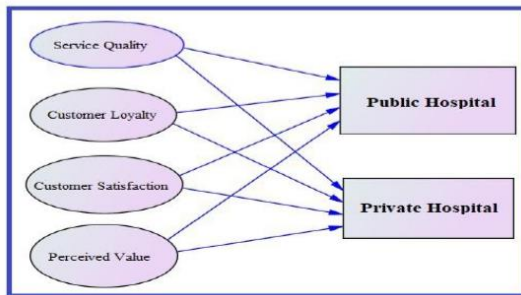**Conceptual Framework and Hypothesis:**

FIGURE 1. THEORETICAL MODEL

Hypothesis:

H01: Mean of service quality score do not differ significantlyfor public and private hospitalrespondents.

H02: Mean of customer loyalty score do not differ significantly for public and private hospital respondents.

H03: Mean of customer satisfaction score do not differ significantly for public and private hospital respondents.

H04: Mean of perceived value score do not differ significantly for public and private hospital respondents.

III.METHODOLOGY

Sampling and Data collection

The comparison group comprised of respondent patients from government and private hospitals in the state of Chhattisgarh. Out of the 520 overall questionnaires distributed, 400 fully filled up questionnaire were finally used for data analysis. Hindi was used as a language or medium for the questionnaire design and communication.

Ten different hospitals were picked up from four different district in the state of Chhattisgarh. Patients who had visited general or clinicalhospital before were included as respondents for data collection.The respondent included were one who spent overnight in hospitals for treatment. Patients respondents were not necessary in patients in the hospitals but were also the care taker of the patients who fulfilled the criteria of staying at hospital. The criteria for selection of hospitals are based on the availability of infrastructure i.e. 100 plus beds hospitals were chosen. Purposive sampling technique was used for data collection.

Table 1 illustrates the respondent's demographic profile (n=400) and its frequency, mean, standard deviation (SD) and confidenceinterval (CI).

Table 1 Population of the respondents

Demogra	Freq	Perce	Mea	SD	CI

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phic Group	uency	nt	n		[95%]
Age (Years)					
Under 20	11	2.8	34.625	0.786	33.72 - 35.52
21-30	152	38			
31-40	183	45.8			
41-50	45	11.3			
51-60	9	2.1			
Gender					
Male	244	61	1.39	0.488	1.34-1.44
Female	156	39			
Education					
High School	29	7.2	3.4	1.067	3.30-3.51
10+2	48	12			
Graduate	100	25			
Postgraduate	179	44.8			
Others	44	11			
Occupation					
Govt. Service	146	36.5	2.33	1.398	2.19-2.46
Private Service	120	30			
Business	50	12.5			
Cultivation	26	6.5			
Others	58	14.5			
Per Month Income					
Less than 15000	88	22	26045	1.398	2.54-2.76
Rs 15001-25000	87	21.6			
Rs 25001-35000	102	25.6			
Above Rs 35000	123	30.8			
Type of Hospital Visited					
Government	200	50	1.5	0.501	1.45-1.55
Private	200	50			

Source: primary data

IV. ANALYSIS AND DISCUSSION

Construction of Instrument: The questionnaire used in the study of constituted 22 item scale on SERVQUAL developedbyCronin and Taylor in 1992.In the questionnaire service quality construct established five main components i.e. tangibility, reliability, responsiveness, assurance and empathy. The construct of perceived valuewas self-constructed scale of fifteen-items, customer satisfaction with five-items and customer loyalty seven-item.Assessment were based on satisfaction level criteria on scale ranging from 1 to 7, representing 1 as very dissatisfied and 7 as very satisfied.SPSS software were used for data analysis.

Table 2: Source of Measured Variable

Variables	No of items	Sources of measurement	Cronbach's Alpha (α)
Service quality (SQ)			
Tangibility	04	Cronin and Taylor (1992)	0.970
Reliability	05		
Responsiveness	04		
Assurance	04		
Empathy	05		
Perceived value (PV)	15	Self-structured scale	0.964

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Customer satisfaction (CS)	05	Self-structured scale	0.906	
Customer loyalty (CL)	07	Self-structured scale	0.957	

Statistical Analysis:

The result of group statistics and 't' test is depicted in table 3 and 4. The score for service quality dimension for private hospitals respondents was higher (Mean = 93.375, SD = 27.659, [95% CI = 89.518-97.231]) than that of the government hospital respondents (Mean = 87.695, SD = 32.453, [95% CI = 83.169-97.220]).

The result of independent sample 't' test found that the data was free from outliers and service quality for each level was normally distributed as accessed by Shapiro-Wilk's test (p > 0.05). Levene's test (p = 0.000) found no homogeneity of variance (H_A: $\sigma_1^2 \neq \sigma_2^2$) There was statistically significant difference in the mean score between private and public hospitals respondents, t (388.246) = 1.884, p = 0.048. Hence, the null hypothesis is rejected and we conclude that there exists significant difference between respondents belonging to private and government hospitals related to service quality.

Table 3: Group Statistics of Service Quality

Group Statistics						
Type of hospital visited by the Respondent		N	Mean	SD	Std. Error Mean	95% Confidence Interval
SQ	Private	200	93.3750	27.65917	1.95580	89.518-97.231
	Government	200	87.6950	32.45363	2.29482	83.169-97.220

Table 4: Independent Sample t test on service quality score

Independent Sample test (Service QualityTotal)			
	Equal variances assumes	Equal variances not assumed	
F	15.385		Levene's Test for Equality of Variances
Sig.	0.000		
t	1.8840	1.8840	t-test for Equality of Means
df	398	388.246	
Sig. (2-tailed)	0.048	0.048	
Mean Difference	5.68	5.68	
Std. Error Difference	3.01518	3.01518	
95% Confidence Interval of the Difference			
Lower	-0.24768	-0.24813	
Upper	11.60713	11.60813	

The result of group statistics and 't' test is depicted in table 5 and 6. The score for customer loyalty dimension for private hospitals respondents was higher (Mean = 30.210, SD = 10.384, [95% CI = 28.762-31.658]), than that of the government hospital respondents (Mean = 28.925, SD = 12.834, [95% CI = 27.135-30.714]).

The result of independent sample 't' test found that the data was free from outliers and customer loyalty for each level was normally distributed as accessed by Shapiro-Wilk's test (p > 0.05). Levene's test (p = 0.000) found no homogeneity of variance (H_A: $\sigma_1^2 \neq \sigma_2^2$). There is no statistically significant difference in the mean score between private and government hospital respondents, t (381.39) = 1.101, p = 0.272*. Hence, the null hypothesis is

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accepted and we conclude that there exists no significant difference among respondents belonging to private and government hospitals related to customer loyalty.

Table 5: Group Statistics of customer loyalty

Group Statistics					
Type of hospital visited by the Respondent	N	Mean	SD	Std. Error Mean	95% Confidence Interval
Customer Loyalty — Private	200	30.2100	10.3837	0.73429	28.762-31.658
Customer Loyalty — Government	200	28.9250	12.8340 5	0.90750	27.135-30.714

Table 6: Independent Sample t test on customer loyalty score

Independent Sample test (Customer Loyalty)			
	Equal variances assumes	Equal variances not assumed	
F	23.272		Levene's Test for Equality of Variances
Sig.	0.000		
t	1.1010	1.1010	
df	398	381.39	t-test for Equality of Means
Sig. (2-tailed)	0.272	0.272	
Mean Difference	1.285	1.285	
Std. Error	1.16736	1.16739	
Difference 95% Confidence Interval of the Difference			
Lower	-1.00997	-1.01028	
Upper	3.57997	3.58028	

The result of group statistics and t test is depicted in table 7 and 8. The score for customer satisfaction dimension for private hospitals respondents was higher (Mean = 23.175, SD = 7.952, [95% CI = 22.066-24.238]) than that of the government hospital respondents (Mean = 23.070, SD = 7.451, [95% CI = 22.031-24.109]).

The result of independent sample 't' test found that the data was free from outliers and customer satisfaction for each level was normally distributed as accessed by Shapiro-Wilk's test ($p > 0.05$). Levene's test ($p = 0.885$) found homogeneity of variance ($H_A: \sigma_1^2 = \sigma_2^2$) There was no statistically significant difference in the mean score between private and government hospital respondents, $t(398) = 0.136$, $p = 0.892^*$. Hence, the null hypothesis is accepted and we conclude that significant difference does not exist between respondents belonging to private and government hospitals related to customer satisfaction score.

Table 7: Group Statistics of Customer Satisfaction

Type of hospital visited by the Respondent	N	Mean	S D	Std. Error Mean	95% Confidence Interval
CS — Private	200	23.1750	7.95239	0.56232	22.066-24.238
CS — Government	200	23.0700	7.45136	0.52689	22.031-24.109

Table 8: Independent Sample t test on customer satisfaction score

Independent Sample test (Customer Satisfaction)			
	Equal variances assumes	Equal variances not assumed	
F	0.033		Levene's Test for Equality of Variances
Sig.	0.855		
t	0.1360	1.1010	t-test for Equality of Means
df	398	381.39	
Sig. (2-tailed)	0.892	0.2720	
Mean Difference	0.105	1.285	
Std. Error Difference	0.77059	0.77059	
95% Confidence Interval of the Difference			
Lower	-1.40995	-1.40996	
Upper	1.61995	1.61993	

The result of group statistics and 't' test is depicted in table 9 and 10. The score for perceived value dimension for private hospitals respondents was higher (Mean = 67.155, SD = 21.062, [95% CI = 34.218-70.098]). than that of the government hospital respondents (Mean 64.325, SD = 20.771, [95% CI = 61.428-67.221]).

The result of independent sample 't' test found that the data was free from outliers and service quality for each level was normally distributed as accessed by Shapiro-Wilk's test (p > 0.05). Levene's test (p = 0.531) found homogeneity of variance (H_A: $\sigma_1^2 =$

σ_2^2) There was no statistically significant difference in the mean score between private and government hospital respondents, t (398) = 0.135, p = 0.177*. Hence, the null hypothesis is accepted and we conclude that significant difference does not exist between respondents belonging to private and government hospitals related to perceived value.

Table 9: Group Statistics of perceived value

Group Statistics						
Type of hospital visited by the Respondent		N	Mean	S D	Std. Error Mean	95% Confidence Interval
P V	Private	20	67.15 50	21.06 298	1.489 38	34.218-70.098
	Government	200	64.32 50	20.77 153	1.468 77	61.428-67.221

Table 10: Independent Sample t test on perceived value score

Independent Sample test (PV)			
	Equal variances assumes	Equal variances not assumed	
F	0.394		Levene's Test for Equality of Variances
Sig.	0.531		
t	1.3530	1.3530	t-test for Equality of Means
df	398	397.923	
Sig. (2-tailed)	0.177	0.177	
Mean Difference	2.83	2.83	
Std. Error Difference	2.09178	2.09178	
95% Confidence			

Interval of the Difference		
Lower	-1.28231	-1.28231
Upper	6.94231	6.94231

V. CONCLUSION AND MANAGERIAL IMPLICATION

The study outcome revealed that theirsignificant gap between government and private hospitals with respect to service quality dimension. Whereas difference was not found for customer loyalty, customer satisfaction and perceived value dimension. The comparison of the mean score on all the dimensions under study revealed that the private hospitals valued more by the patients in terms of service quality, customer loyalty, perceived value and customer satisfaction.

Health care framework of a state determines the overall wellbeing of the public. The study aimed to compare and between dimension of customer satisfaction,service quality, perceived value and customer loyalty. The study result concluded that significant difference existed for the dimension of service quality dimension between private and government healthcare. This outcome is consistent with the previous study undertaken in the past (Zamil, Areiqat&Tailakh, 2012; Kavitha, 2014). The variance in the context quality of service could be attributed to higher facilities of the private health care systems (Kavitha, 2014).

The outcome reveals that opinion differentials among patients were not observed for the dimension of perceived value of the customers this outcome is similar with the findings of Sohail, 2003. Customer satisfaction and customer loyalty dimension also did not show any difference of opinion among public and private hospitals. This outcome is in divergence with the past literature studies (Mittal & Kamakura, 2001; Ismail,Haron,Ibrahim Isa, 2006; Tsai, Tsai, & Chang, 2010). Thus the public health care facilities in the state needs considerable attention in terms of service quality.

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