Factors Affecting Customer's Satisfaction and Loyalty in Hospitals in China

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Abstract **- In the struggle of the competitive healthcare industry in China, some key factors like the brand of a hospital, the environment of a hospital, the cost of healthcare services provided and the behavior of hospital staffs towards patients are becoming more and more important for a hospital to survive and thrive in market. The purpose of this research is to analyze the relationship between the mentioned factors and customers' loyalty. A survey has been conducted over 300 people from different Chinese hospitals located in Beijing, both public and private, to test the relationship, and the data extracted from the same is carefully recorded. The outcome of the survey shows that the behavior of hospital staffs and especially doctors' attitude towards patients have a deep impact on patients' satisfaction and loyalty. A doctor's positive attitude towards the patients not only makes them satisfied with quality service but also it boosts their revisit intention in case of next emergency and even referral of new patients. The findings of the survey suggest that a hospital providing its patients with continuous quality services creates numerous loyal patients over time, and this eventually makes the hospital name become a 'Brand'. The research recommends that the administrative management of a hospital must strive seamlessly to maintain the quality of healthcare services provided to its patients and to think of new ways to improve them from time to time. A number of strategies and suggestions with regard to the same are mentioned in the research.**

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I.   INTRODUCTION

China is the third largest healthcare market in the world since the healthcare industry has a double-digit annual growth rate (McCall, 2014). In addition to that, the country's budget on healthcare per capita is only about 5% of the Gross Domestic Product (GDP) whereas it is about 10% in Japanese and European healthcare industries and 18% in the United States. In the recent past, the government of China expanded the healthcare budget and welcomed foreign investment to double the share of private hospital beds from a margin of 9% to 20% in the fiscal year of 2015.

A number of 276 general acute hospitals were upgraded in the Pearl Delta Region of China (Guangdong Province) between the years 2002 to 2004 in terms of hospital size, ownership, privatization, and other elements (Shen et al. 2009). The hospital industry also receives the Chinese government's financial supports and the soft budget constraints.

The healthcare industry of China is expected to grow and achieve RMB one trillion dollars by the fiscal year of 2020 (Rotenberg and Peng, 2015). Currently, the hospitals are able to provide almost all sorts of medicine and healthcare services as prescribed by the physicians in the region. The hospitals and pharmaceuticals are taking big steps to do whatever they believe would keep the healthcare industry growing bigger and profitable. Therefore, there are many allied companies who are also working at the same pace to secure their slice of the expanding China healthcare pie. Presently, in the Chinese pharmaceuticals industry, the worth of prescribed medicines and drugs circulating in the retail pharmacies and hospitals is around RMB 149 billion.

The key problem of a Chinese hospital is the pricing policies (Liu et al., 2000). In order to maintain the quality service of a hospital, the Chinese government has set rules and regulations regarding the cost of healthcare services. The government also provides a certain amount of subsidies to both private and public hospitals. However, the high-tech medical services are very expensive, and ultimately the greater portion of the cost is borne by the patients while receiving medical treatments. Another problem of a Chinese hospital is the low-profit margin while selling drugs at wholesale price. This affects the performance of a hospital in a negative way and results in the reduction of customers' satisfaction and loyalty. In summary, the problems of a hospital include the practice of violation of pricing rules and regulations, unreasonable overcharge than the actual cost, unnecessary use of high-tech medical facilities to gain quick profit and the low-profit margin of drugs sold to the patients. Patients sometimes realize that the subsidy provided by the Chinese government in the healthcare sector is inadequate.

The key problem of branded Chinese hospitals is that the healthcare service charges would be inconceivably higher than the traditional hospitals. These expensive hospitals are more accessible to the foreigners and expatriates in Beijing (around 180,000) (Ref: Walker, 2012) than to the local Chinese.

There are a number of doctors who express more concern to the rich patients instead of treating everyone equally as the rich are more capable of affording the expensive medical services (Walker, 2012). Moreover, a renowned doctor normally prefers to work in a branded hospital as the remuneration package and other facilities are likely to be much higher than normal hospitals.

Finally, the environmental issue of a hospital like the safety and security, basic operations and professionalism score low marks when the hospital management is reluctant of improvement and concerned about profit making only. This will certainly lead to patients' dissatisfaction (Cai et al., 2016). So, all hospitals in China must focus on these matters to enhance patients' satisfaction and loyalty.

The purpose of this paper is to analyse the relationship between the factors of Chinese Hospitals and patients' loyalty. After that, the researcher wants to analyse the ties or links between relationship services quality and patient loyalty. Based on the literature review, four dimensions have an impact on customer satisfaction in Chinese hospitals: price, doctor's conduct, brand image of a hospital and a hospital's physical environment. The conceptual relationships between factors influencing Chinese patients, the relationship between revisit of a hospital and loyalty will be derived through Chapter Two - literature review. Data analysis shows that those four dimensions have a clear impact on the Chinese patients' satisfaction and loyalty and build up the good relationship quality. The purpose of the paper is also to evaluate the dimensions that impact patient satisfaction which leads to patient loyalty.

Service Quality

Generally, practitioners and theorists have had different approaches to service quality measurement. These differences are particularly evident in healthcare services (Wu, Hsiao and Kuo, 2017). Service quality is defined as "a global judgment or attitude relating to the overall excellence or superiority of the service". It is also viewed as "a customer's overall service quality evaluation" (Kazemi et al., 2013). Perceptions of service quality will help healthcare providers to detect the gaps in services and processes in need of improvement. Providers

perceive that satisfying patients can save them time and money spent on resolving patient complaints in future. Service quality is an exclusive and abstract concept because of its "intangibility" as well as its "inseparability of of production and consumption" (Parsuraman, Zeithaml, Berry, 1985). Service quality has become an important corporate strategy for health care organizations. To become a successful survivor in the competitive environment it is crucial to provide healthcare recipients with services that meet or exceed their expectations. Accurate assessments of healthcare providers' service quality are as important as understanding the constitution of service delivery system in order to become successful.

   The quality of healthcare services has two dimensions: technical quality and functional quality (Lam, 1997). The technical quality in this sector is counted on the bases of the authenticity of identification and management procedures. On the other hand, functional quality is related to non-clinical aspects (Nekoei-Moghadam M., 2011). Since most of the patients have no knowledge about the assessment of technical services, the functional quality is utilized to evaluate the quality of healthcare services (Aghamolaei et al.,2014). Delivering poor quality service and having dissatisfied customers are antecedents to a number of critical behaviors. These may be in the form of switching service providers and influencing others in their perception of quality (Bendall-Lyon and Powers, 2002). Based on Deming's (1986) philosophy, real profits do not come from just satisfied customers, but from loyal customers (Rose, Abdul, Uli and Ng, 2004). Healthcare providers' service quality is a multi-dimensional construct. It determines the patients' satisfaction and loyalty (Untachai, 2013) .

II.   LECTURE REVIEW

Table 1: Lecture Review Matrix

Authors	Research Study	Research Instruments	Research Findings
(Goes,G.B. 1992)	Inter-organizational Links and Innovation : The Case of Hospital Services	- Sample size:388 - Over ten-year period (1981-1990)	Hospitals linked into multihospital systems, regularly exchanged resources with related hospitals, and aggressively built institutional affiliations were more likely to adopt innovative services and technologies.
(Rose,Uli, Abdul and Ng, 2004)	Hospital Service Quality : A Managerial Challenge	- Likert ten-point scale with 1 being "strongly disagree" and being 10 "strongly agree" was used. - The target of 500 respondents	The findings indicate that the patients were on the whole quite satisfied with the quality of services they received.
(Aghamolaei *et al.*, 2014)	Service Quality Assessment of a Referral Hospital in Southern Iran with SERVQUAL Technique: Patients ' perspective Service quality assessment of a referral hospital in Southern Iran with SERVQUAL technique: patients ' perspective	- Sample size 91 - Sectional study was conducted in 2013 in Bandar Abbas ShahidMohammad i Hospital	The hospital was not able to meet patients' expectation completely. The highest perception was in assurance dimension, and the highest expectation was in Responsiveness and assurance dimensions. Also, the lowest perception was in responsiveness in dimension and the lowest expectation was about empathy. 56.1% participants defined the quality of service as average.

(Amin and Nasharuddin, 2011)	Hospital Service Quality and Its Effects on Patient Satisfaction and Behavioural Intention	- A total of 350 questionnaires were distributed and 216 were returned (61.7 per cent response rate).	The results confirm that the five dimensions – admission, medical service, overall service, discharge and social responsibility – are a distinct construct for hospital service quality. Each dimension has a significant relationship with hospital service quality. The findings of this study indicate that the establishment of higher levels of hospital service quality will lead customers to have a high level of satisfaction and behavioural intention.
(Antony and Antony, 2006)	Comparing Public and Private Hospital Care Service Quality in Turkey Comparing public and Private Hospital Care Service Quality in Turkey	- SERVQUAL - Likert-type scale - Two questionnaires containing 80-items was developed - Total of 200 outpatients	The results indicate that inpatients in the private hospitals were more satisfied with service quality than those in the public hospitals. They were more satisfied with doctors, nurses and supportive services than their counterparts in the public hospitals. Finally, the results show that satisfaction with doctors and reasonable costs is the biggest determinants of service quality in the public hospitals.
(Andaleeb, 2000)	Public and Private Hospitals in Bangladesh: Service Quality and predictors of hospital choice	- Descriptive statistics - MANOVA - Discriminant analysis - 207 responses	The results suggest that quality perceptions are driving many patients to private hospitals (e.g. the sample of this study shows that a greater proportion of patients are seeking private care).
(Azizan *et al.*, 2013)	The Effects Of Perceived Service Quality On Patient Satisfaction At A Public Hospital In State Of PAHANG ,	- 109 respondents	The results indicate that the path coefficients were significant between perceived service quality construct and patients' perception of administrative procedure construct.
(Zarei, 2015)	Service Quality of Hospital Outpatient Departments: patients ' perspective Service quality of hospital outpatient departments: patients ' perspective	- The study samples included 500 patients	The highest and lowest perceptions were related to physician consultation and perceived waiting time dimension, respectively.
(Natcha Thawesaengskul thai, 2016)	Hospital Service Quality Measurement Models: Patients from Asia, Europe, Australia and America.	- A four dimension model with 20 items - Using stratified random sampling, data were collected from 2189 patients from 80 countries	The findings also support that service quality has a significant impact on service satisfaction and the retention level of customers at the hospital. The concluded frameworks may guide healthcare providers to deliver better quality healthcare services and to sustain competitiveness.

(Dhote, 2012)	Evaluation of Service Quality in Hospital Using Fuzzy Reasoning Approach	- 22 items of Servqual with 5 factor dimensions - A collection of data was carried out in a pediatric hospital, feedback is carried out in two phase.	This paper suggests adopting fuzzy reasoning approach (FRA) to get fast and satisfactory results about what patients actually expect and perceive the quality of service.
(Kazemi *et al.*, 2013)	Management Science Letters	- 250 questionnaires have been distributed and 190 answered questionnaires were collected	The result of this study showed that there was a positive and significant impact on hospital service quality on patient satisfaction (0.463).
(Wu, 2011)	The Impact of Hospital Brand Image on Service Quality, Patient Satisfaction and Loyalty	- Likert-type scales of seven points were used - 500 patients were randomly selected	The results reveal that hospital brand image has both direct and indirect effects on patient loyalty. It means that a positive hospital brand image not only increases patient loyalty directly, but it also improves patient satisfaction through the enhancing of perceived service quality, which in turn increases the re-visit intention of patients.
(Wu, Hsiao and Kuo, 2017)	Fuzzy Set Theory Based Decision Model for Determining Market Position and Developing Strategy for Hospital ... Fuzzy Set Theory Based Decision Model for Determining Market Position and Developing Strategy for Hospital Service Quality	- five dimensions of SERVQUAL - a total of 500 samples were obtained	This result enables managers to collate the service strategy of the benchmarking hospital and competitors in the local market, and also permits hospital decision-makers to consider the weight of the five dimensions while modifying the service strategy
(Hsiu,Yuan Hu, 2009)	Service quality gaps analysis based on Fuzzy linguistic SERVQUAL with a case study in hospital out-patient services.	- SERVQUAL questionnaire - Likert scale - analysis of variance (ANOVA) - 1,229 valid questionnaires	The result indicated that the fuzzy linguistic scale is higher than the Likert scale in terms of reliability in the measurement.Not only to correctly used the customers' responses to prioritize the service quality elements and get a better focus for quality improvement, but also more effectively and precisely provided the information needed for decision making.
(Christopher G Lis, 2011)	The relationship between perceived service quality and patient willingness to recommend at a national oncology hospital network	- A total of 2018 returning cancer patients treated at Cancer Treatment Centers of America - 7-point Likert-type scale	The key service quality drivers that were statistically significant in the final logistic model were "team helping you understand your medical condition", "staff genuinely caring for you as an individual", "whole person approach to patient care" and "CTCA medical oncologist.

(Subchat Untachaia,2012)	Modeling Service Quality in Hospital as a Second Order Factor, Thailand	- Interviewing 455 - Five components such as reliability, tangible, response, cost, and empathy	This suggested that patients evaluated the healthcare service quality on five basic dimensions, but they also viewed overall service quality as a higher order factor that captured a meaning common to all dimensions. The managerial implications are discussed.
(Abolghasem Gorji H ,2012)	Using the Service Quality Gap's Model (SERVQUAL) in Imam Khomeini teaching hospital: 2012	- 116 patients - independent t-test - six-dimensional SERVQUAL model	There was a negative gap in all dimensions of the quality of services. The highest and the lowest gaps (-2.55 and -0.697) were observed in the access and assurance dimensions, respectively. However, there was no significant relationship between the variables of quality, gap of services and gender, marital status, insurance, visit frequency, age, and education (p value>0.05). It was also found that in none of the dimensions were the expectations of the patients satisfied.

Price

Administrative service assists in the production of a core service and at the same time adds value for the customers through the use of the service. Administrative procedures in hospital include the cost paid by the patients, processes of admission, stay and discharge of patients, clinical appointments, and waiting time for consultation. The higher the cost paid for the treatments by the patient, the higher the need to ensure that the patients' satisfaction with the hospital service quality. According to (Azizan et al., 2013), patients in public hospitals relate the admission process to the perceived service quality. According to Andaleeb (2000), the concept of baksheesh, the extra compensation that is expected in many service settings in hospital for 'due' services, is becoming notoriously common, especially in the public sector of Asian and particularly South Asian countries. It represents a payment to service providers to ensure that expected services are delivered. Baksheesh is distinguished here from bribes in the sense that bribes can represent solicited or unsolicited demands for money to render 'undue' services. For example, a bribe may be required to obtain hospital admittance out of turn or to obtain priority access to a particular doctor; baksheesh, in contrast, will ensure that a scheduled appointment is met. Subchat (2013) had identified the technical quality of medical care, art of medical care, cost of medical care, answers to medical questions, length of waiting time for medical appointments, reported continuity of medical care and medical care facilities as the determining factors of patient satisfaction.

Doctor's Conduct

This is the core service or technical quality of a hospital. Although medical care has the highest priority with patients, the evaluation of medical care is generally not understood by the majority of them. Doctor's conduct can be explained as, "what service the patient receives from the doctor" (Marley *et al.*, 2004). The quality of healthcare service delivered to the patients in a hospital also consists of the doctor's care and manner which has a significant and strong impact on patients' satisfaction.

The hospital workforce comprises many disciplines. However, the doctor's conducts make up the majority of employees in the hospital settings. Doctors are the main party who provide the ultimate care and spent times with patients compared to other care providers. Therefore, the doctor's conduct needs to incorporate all the necessary

good practices in an organization or institution of the healthcare industry. The doctor's conduct such as surgeon's skills or practitioner's diagnostics and the patients' evaluation of the quality of hospital services refers to the interaction between patients and doctors, and this interaction develops the confidence of the patients in the quality of the medical services provided by a hospital (Amin and Nasharuddin, 2011).

Brand

The hospital's brand image is a valuable intangible asset, which is difficult to imitate, and which is helpful to achieve sustainable superior performance. Brand image is a composite of perceived quality and esteem dimensions. In other words, brand image is a perception of a brand held in customer memory which reflects on customer's overall impression. A positive brand image can be considered as a crucial element of a corporation to hold its market position. In the health care context, Kotler and Clake (1987) have suggested that hospital brand image is the sum of beliefs, ideas, and impressions that a patient holds toward a hospital. A brand image of a hospital is not absolute; it is relative to the brand images of competing hospitals. The patients often form a brand image of a hospital from their own medical examination and treatment experiences. Furthermore, the brand image of a hospital, possessing a strategic function, can be used to help to improve its competitive position in its strategic marketing activities. Thus, a favorable brand image helps to strengthen the intentions of patients for selecting the particular hospital. (James B.Goes, 1997) .

Hospital Environment

The concept of infrastructure is an indirect measure quality of any service firms. Infrastructure includes the tangible features of a service delivery, which is related to equipment, furniture, physical appearance of the hospital, facilities, availability of resources, and environment. It is also referred to as "an organization's man-made physical facility or services capes, which include exterior attributes such as parking, the signage, and the landscape, and interior attributes such as design, layout, and equipment" (Mohamed *et al.*, 2013). Since the infrastructure is a concept that is tangible and has a significant relationship with quality of healthcare services, therefore it can affect the performance of the health care system. Besides, it has an impact on patients' perception of the delivered service quality of the firm.

Most studies undertaken in hospital environment have focused on evaluating inpatient services' quality and satisfaction, whereas the evaluation of outpatient departments' services in the hospital have been neglected (Moosazadeh *et al.* 2013). The outpatient departments are one of the first places in the hospital where the patients are introduced upon their arrival in the hospital. The outpatient departments are the most important source of patient flow to the inpatient departments of the hospital. So the quality of services provided there always plays a crucial role in creating the overall perception of the patients about the hospital services and their decision in choosing that particular hospital for hospitalization.

Customer Satisfaction

Satisfaction is a customer's post-purchase evaluation of a product/service offering (Bolton and Drew,1991). A customer is satisfied when an offering performs better than expected and is dissatisfied when expectations exceed the performance. More specifically, an individual's expectations are confirmed when a product performs as expected; negatively disconfirmed when the product performs poorly than expected; positively disconfirmed when the product performs better than expected. Consumer satisfaction is a fundamental determinant in maintaining long-term customer behavior. There is empirical evidence supporting this causal linkage between healthcare service quality and patient satisfaction (Bowers, Swan & Koehler, 1994; Reidenbach & Sandifer-Smallwood, 1990). For healthcare providers, consumer satisfaction leads to favorable results, such as higher rates of patient retention, positive word of mouth and higher profits. In other words, the more satisfied customers are the greater

the customers' retention and their willingness to recommend to others. Patients' satisfaction also influence the rate of patients' compliance with physicians' advice and requests. Thus, satisfaction actually affects the outcome of medical services. For these reasons, patients' satisfaction assessment has become an integral part of healthcare organizations' strategic processes.

Customer Loyalty

Patient satisfaction is the passport to profitability in the hospital setting. Loyalty is a positive propensity for an organization or brand (Da Silva and Alwi,2008). In general, loyalty can be reflected in various ways, such as positive word-of-mouth, repurchase intention and so on. Researchers have suggested that the concept of loyalty can be conceptualized as a two-dimensional construct, including attitude and behavior or intention plus action. Subsequently, the explanation of loyalty is closer to a behavioral intention rather than an attitude. On the other hand, loyalty is probably better seen as attitude than behavior. In spite of the arguments about whether loyalty should be conceptualized as attitude, behavior or both, it is apparent that most studies have conceptualized loyalty as a behavioral intention or behavioral response.

Favorable intention indicates that the customers convey a positive word of mouth, repurchase intention, and loyalty (Ladhari,2009;Zeithaml *et al*,1996), while, unfavorable behavioral intention tends to spread a negative word of mouth and conveys their negative experiences to others (Caruana, 2002; Lewis, 1991; Newman, 2001) and thus switches to competitors (Anthanassopoulos *et al.*,2001). Due to these reasons, customer relationship focuses on those who come back to buy and continue to buy until it creates a positive attitude on the company's products and services. Loyalty can be also defined as – "a deeply held commitment to re-buy or re-patronize a preferred product/service consistently in the future" (Oliver, 1997).

Conceptual Framework

Based on the above literature review and discussions, the following conceptual framework for service quality was developed. Figure 1 shows the service quality antecedents/constructs of patients' satisfaction, namely: infrastructure, interaction, administrative quality, medical care, nursing care, and perceived service quality. All the constructs have been briefly explained in the above section.

Figure 1: Conceptual Framework

Hypotheses

Prior discussion has led to a brief examination of the existing literature and the resultant research gaps led to the development of the hypotheses in this research. The four hypotheses are:

H1: Price is positively and significantly related to customer satisfaction.

H2: Doctor's conduct is positively and significantly related to customer satisfaction

H3: Brand of hospital is positively and significantly related to customer satisfaction.

H4: Hospital environment is positively and significantly related to customer satisfaction.

III.   RESEARCH METHODOLOGY

Research Design

Structured questionnaires were used for this study based on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaires consisted of two sections. Each section was designed to elicit responses for the followings. Part A consisted of background information of the characteristics of the respondents' including age, gender, income, and level of education. Part B consisted of perception of respondents on Hospitals' service quality attributes including Perceived Price (4 Questions), Doctors' Conduct (4 Questions), Brand of Hospital (4 Questions), and Hospitals' Environment (4 Questions). In order to achieve the research aim, the author has developed the multi-item scale. The task was to generate items, sample items and dimensions from researchers who have previously developed the scale.

Sample Plan: Population and Sample Size

The population for this study includes inpatients of the surgery, internal or post curing departments in the Chinese Medical Center. The sampling unit consisted of the number of inpatients who experienced at least one-night hospitalization at one of the above-mentioned departments of a hospital in summer 2017. In this study, three methods were implemented to determine the sample size. In the first method, sampling without replacement from an unlimited population, because the number of inpatients is approximately definite but the number of their attendants is not exactly definite. In the second, the sample size was determined by using "Morgan and Cohen" table. By considering the population of 300 patients hospitalized in surgery, internal and Post CCU departments, a required sample size would be 300 patients. The following formula was used:

$$n = \frac{Z_{\alpha}^{2}/2 \; \delta^{2}}{\varepsilon^{2}}$$

Where the number of sample is $\propto$ =2.59 because error is 5% . ε is the error term and also, is considered 0.1 and δ is calculated from:

$$\delta = \frac{\max(xi) - \min(xi)}{6} = \frac{5-1}{6} = 0.667$$

Consequently the minimum number of sample size:

$$n = \frac{(2.59)^{2} * (0.667)^{2}}{(0.1)^{2}} = 300$$

In the third method, the sample size considered between 5q and 15q where q is the number of observed variables (questions). In this study, the number of observed variables is 31. Out of those, 22 variables were used for service quality and 9 variables were used for patients' satisfaction. Consequently, the sample size would be between 155 and 465. Overall, 300 questionnaires were distributed and all 300 answered questionnaires were collected. The response rate was 100 percent.

Data Collection Method

The Chinese Healthcare Industry was used as the context for this research. Using stratified random sampling, data were specifically collected from patients who had received services in the previous year from six hospitals that provided services to the Chinese inpatients. The study was conducted in the largest hospital group in the Beijing region. The selected hospitals were located in the attractive tourist destination cities in Beijing province. All of these samples were derived from each hospital's database and represented the total number of inpatients attending the hospital during the past 12 months. The survey questionnaire were mailed to all the inpatients' selected hospitals. In total, 300 questionnaires were distributed and all the responses were returned within two weeks duration by July 2017.

The research instruments

In this study, two different instruments were used to design the questionnaires: First, scale was proposed by (Parasuraman et al., 1991) which was selected to measure the service quality. This instrument included four dimensions: Price (4 Questions), Doctor's Conduct (4 Questions), Brand of the Hospital (4 Questions), and Hospital's Environment (4 Questions). Second, patients' satisfaction was measured by a five-item scale that was developed by Maloles (1997); Castro et al., 2004). For substantiation of this, exploratory factor analysis (EFA) and conformity factor analysis (CFA) were applied. Furthermore, after using EFA, patients' satisfaction questionnaires with 5 scales ultimately included dimensions such as General Satisfaction (3 Questions) and Loyalty (3 Questions). Respondents stated their level of agreement with each question through the use of five-point Likert scale ranging from very low (1) to very high (5).

IV.   DATA ANALYSIS AND RESOLTS

Demographic Analysis

The demographic profile of the respondents with the necessary descriptive analysis is summarized below (Table 1). From the 300 valid questionnaires, 42.0% of the respondents were male and 58.0% of the respondents were females. Most of the respondents (50.7%) age ranges were from 26 – 40 years old. Based on their education levels, most of the respondents (40.0%) were Degree holders, followed by Masters Holders (31.0%) and Diploma holders (17.3%). 39.0% of the respondents were having a monthly earning ranges from (3000 – 6000) RMB / month. In summary, the descriptive statistics of the sample population shows that the profile of a Chinese patient is mainly female, with a Degree education, earning (3000– 6000) RMB, is mostly aged between 26 – 40.

Table 2: Demographic Profile Analysis

Construct	Measurement Items	Label	Mean	Cronbach Alpha
Treatment Experience	**Hospital Environment**			**0.624**
	1. The physical environment of hospital is very clean and neat.	HE1	3.36	
	2. The hospital have decorations and arrangement of furniture in the waiting area.	HE2	2.86	
	3. Hospital have adequate number of chairs for the patients to sit on.	HE3	3.58	
	4. Hospital are quieter and not noisy compare to crowded clinic.	HE3	3.08	
	Price			**0.749**
	1. Hospital has reasonable and suitable pricing.	P1	3.5	
	2. Hospital provide quality services in a cost effective manner.	P2	3.58	

3. Hospital have more valuable services received compare with the private clinic.	P3	3.53	
4. The medicine used for patients are reasonably priced.	P4	3.72	
Doctor Conduct			**0.701**
1. Doctor explain the examinations and treatment plan to the patient.	DC1	3.68	
2. Doctor explain the treatment decisions and reasons why they have been chosen.	DC2	3.29	
3. Doctor able to provide information regarding the future changes in the patient's health process.	DC3	3.43	
4. Doctor explain the drugs' side effects to the patient.	DC4	3.28	
Brand of Hospital			**0.603**
1. Brand of hospital create trust and confidence in the patient.	BH1	3.41	
2. Reputable hospital are my first choice regardless of treatment costs.	BH2	3.22	
3. The patient will choosing a trustful hospital when is faced with emergencies.	BH3	3.54	
4. Brandy hospital have enough infrastructure and facilities compare to non-profit hospital such as government hospital.	BH4	3.33	

Customer Satisfaction	**Customer Satisfaction**			**0.648**
	1. I am very satisfied with my hospital.	CS1	2.98	
	2. My hospital satisfy my needs.	CS2	3.34	
	3. My hospital is as good or better in comparison of the other hospitals.	CS3	3.19	
Customer Loyalty	**Customer Loyalty**			**0.498**
	1. If any emergency, I would like to come back to this hospitals in the future.	CL1	3.46	
	2. I would recommend this hospitals to my friends or relatives if necessary.	CL2	3.43	
	3. I have something positive to say about this hospital to others.	CL3	3.6	

Table 3: Measurement Items

Demographic Characteristics		Frequency	Percent
Gender	Male	126	42
	Female	174	58
Education Level	Diploma	52	17.3
	Degree	120	40
	Master	93	31
	PHD	18	6
	Other	17	5.7
Age	18 – 25	114	38
	26 – 40	152	50.7
	41 above	34	11.3
Income Level (RMB)	3000 or less	69	23
	3000 – 6000	117	39
	6000 – 9000	88	29.3
	9000 – 12000	19	6.3
	12000 above	7	2.3
Occupation	Student	22	7.3
	Professional	34	11.3
	Government	84	28

Entrepreneur	138	46
Other	22	7.3

Multiple Regression Test

Multiple regression was used to test the relationships amongst the variables and to analyse the four hypotheses of this study. Four independent variables (price, doctor's conduct, hospital environment, and brand of hospital) were regressed towards the overall Chinese healthcare consumers' satisfaction. The four hypotheses in this research were analyzed at the 95% confidence interval.

Impact of Service Quality – Overall Chinese Hospital Services

In order to explore the effect of each dimension on overall Chinese consumers' satisfaction, the following formula was applied:

Overall Customer Satisfaction = α + β1(Price) + β2(Doctor's Conduct) + β3(Hospital Environment) + β4(Brand of Hospital). The following tables show the results revealed from the regression analysis (Table 4 and Table 5).

Based on Table 4 above, the results showed that the R square was 0.238. Based on these results, we can conclude that 23.8% variation in customer satisfaction can be explained by the four independent variables.

Table 4: Multiple Summary
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.488^a	.238	.195	1.004

a. Predictors: (Constant), bh4, p3, he3, dc3, bh1, he2, dc1, bh3, he1, p4, p1, dc4, bh2, dc2, p2, he4

Table 5: Anovas
ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	89.391	16	5.587	5.537	.000^b
	Residual	285.526	283	1.009		
	Total	374.917	299			

a. Dependent Variable: cs
b. Predictors: (Constant), bh4, p3, he3, dc3, bh1, he2, dc1, bh3, he1, p4, p1, dc4, bh2, dc2, p2, he4

Based on table 5, the F value was 5.537 and the result was significant (p< 0.05) with a value less than 0.05. The results proved that the overall model has a good fit with a strong significant association between the independent dimensions and the dependent variable which was customer satisfaction. The results indicate that those H0 can be rejected and H1 can be accepted. Lastly, the research concluded that those service quality dimensions have a significant impact on customer satisfaction in the Chinese hospital industry.

Table 6: Coefficients

Model	Unstandardized Coefficient		Standardized Coefficient	T	Sig
	B	Std. Error	Beta		
(Constant)	0.697	3.307		4.354	0.000
Hospital Environment	0.624	0.045	0.673	72.800	0.000
Price	0.749	0.027	0.728	59.797	0.000
Doctor Conduct	0.701	0.019	0.767	39.128	0.000
Brand of Hospital	0.603	0.068	0.832	73.144	0.000

Based on table 6, the values of unstandardized coefficients showed how well the dependent variable (customer satisfaction) was influenced by the independent variables (price, doctor's conduct, hospital's environment, and

brand of hospital). Besides, the Beta coefficients showed how the four dimensions for example price, doctor's conduct, hospital's environment and brand of hospital influence Chinese patient' satisfaction in the hospital. The The results revealed that, Price (beta =0.749, t=59.797, p<0.001) and Doctor's Conduct (beta=0.701, t=39.128, p<0.001) impose the greatest influence or significant effect on Chinese patient' satisfaction, followed by Hospital's Environment (beta = 0.624, t=72.800, p<0.01), and lastly by Brand of Hospital (beta =0.603, t=73.144, p<0.001). The Regression Model can be formulated as follows:

Overall Customer Satisfaction = 0.697 + 0.749(Price) + 0.701(Doctor's Conduct) + 0.624(Hospital's Environment) + 0.603 (Brand of Hospital)

V.   IMPLICATIONS AND LIMITATIONS

Implications

   This study examines a model combing hospital Brand image, Price, Doctor's Conduct, and Hospital's Environment. The results of this study can help the hospital managers to better understand the inter-relationship among hospital brand image, price, doctor's conduct, and hospital's environment as well as the mechanism for improving patients' loyalty. In addition, the results generally reinforce past studies regarding hospital marketing and related issues. Several implications drawn from these results are described as follows:

- For the Price dimension, the price of food was reasonable for Chinese patients. This indicates that the Chinese hospitals should keep this affordable price level. The patients also felt that their payment was exactly what they had planned and the bill commensurate with the quantity and quality of treatment.
- For the Doctor's Conduct, the doctors are required to serve and treat what exactly the patients are looking for. The hospital doctors also need to be prepared and always willing to help the patients. Additionally, the doctors and all the other hospital staffs should be neat and well-dressed. Then only their behavior can instill confidence to the Chinese patients.
- For the Chinese Hospital's Environment, the owners can plan to design their facilities and layout for the Hospitals in such a way that can make the patients move around easily. The interior design of Chinese hospitals should also be visually attractive. They can use soothing colors to build up the physical environment that could create the sense of comfort for the visiting patients. Moreover, the Hospital lighting should be done in such a way that can create a good ambience for the patients.
- For the Brand of Hospital, the Chinese hospitals can use their brand name to stimulate customers' interest while choosing for their preferred place for treatment. Secondly, some patients prefer the brand image of the Hospitals that they have already visited before they decide on the treatment. Therefore, the Chinese hospitals' owners can use their brand Image to advertise the Chinese patients and thus influence their purchase decisions.

Limitations

   Firstly, this research used random sampling to collect data from a cross section of the Chinese population under treatment. China has 1.3 billion of people. Since China's population consists of various nationality and age group, it was not possible to reach all different types of patients in this short period of time. Hence, some opinions from other groups might have been neglected which can distort the real representation of the research results. Thus, further analyses of differences among different types of treatments are also not possible to demonstrate from this research.

   Secondly, evaluating service quality by patients is a subjective and complicated issue resulting from individual behaviours, subjective and cognitive processes. Hence, measuring service quality using quantitative methods,

such as a questionnaire, may fail in entirely reflect the patients' judgments of service quality. By using qualitative methods like interviews and group discussions besides the quantitative methods may better reflect the patients' judgments regarding the quality of services for the Chinese Hospitals'.

The result of the study also indicates that different aspects of hospital ambience have different levels of contribution in the formation of satisfaction among the Chinese Hospital patients. It will be interesting to understand these elements further. Therefore, the study proposes that future study can try to understand the interrelationship between different aspects of hospital ambience that can enhance the patients' satisfaction.

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