Key Factors of Satisfaction and Behavioral Intention of Outpatients to Use Healthcare Services in Chengdu, China

Yuguo Feng *

Abstract

Purpose: Despite the fact that hospitals seek a way to improve the quality and efficiency of medical services to survive and develop in the fierce market competition, this research investigates the factors that impact outpatients' satisfaction and behavioral intention to use healthcare services in hospitals in Chengdu, China. **Research design, data, and methodology:** The quantitative study will collect data via a questionnaire from 500 outpatients from 20 hospitals in Chengdu, China. The sample methods are judgmental, quota, and convenience sampling. The index of item-objective congruence (IOC) and pilot test (n=30) were conducted to validate validity and reliability before the data collection. Confirmatory factor analysis (CFA) was used to assess the convergent and discriminant validity of the measurement model. Furthermore, the Structural equation model (SEM) was applied to test the effect of measured variables and conclude the research. **Results:** The results indicated that responsiveness was the strongest factor that significantly impacted patient satisfaction, followed by assurance and empathy. However, tangibles and images did not significantly impact patient satisfaction. In addition, patient satisfaction was directly related to behavioral intention. **Conclusions:** Hospital managers should improve service management and patient satisfaction and obtain more customers to improve the hospital's market competitiveness.

Keywords: Healthcare, Service Quality, Patient Satisfaction, Behavioral Intention, Outpatient

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Health is a perfect state of mind and body without the disease. Health policymakers worldwide strive to improve people's health (Rehaman & Husnain, 2018). Therefore, it is important to explore how to improve health services. Medical service quality is the foundation and core of medical service organization management (Coutinho et al., 2019).

Public and private hospitals should constantly improve the quality and efficiency of medical services to survive and develop in the fierce market competition (Mutiarasari et al., 2021)

Patient satisfaction is regarded as the gold standard to measure the hospital's quality management and could objectively reflect the quality of medical service (Ng & Luk, 2019). Through the measurement and evaluation of patient

1* Yuguo Feng, School of Arts and Design, Xihua University, China. Email: 1452450362@qq.com

satisfaction, the hospital can find the gap between the medical service quality provided by hospitals and the service quality expected by the patient, propose targeted management measures, guide the improvement of service quality, and improve customer satisfaction (Buli et al., 2022).

Patient satisfaction is a complex concept, and the patient's perception and cognition of medical services are highly subjective and special (Teshome et al., 2022). Patients tend to compare their expectations and perceptions of hospital service quality. If there is a large gap between the two, patients' dissatisfaction will increase (Andemeskel et al., 2019). Many studies pointed out that patient satisfaction, directly and indirectly, affected behavioral intention. In other words, patients' satisfaction indicates their reaction to the diagnosis and treatment results and which hospital they could choose when they are ill (Fan et al., 2005). Although it is very important to study patient satisfaction and behavioral intention, unfortunately, limited by financial capacity, many developing countries often neglect the factors that affect patient satisfaction and behavior intention (Woji, 2017). Many factors affect patient satisfaction, including the hospital management system, medical staff, patients, etc. Many factors in the medical service process significantly affect patients' evaluation of medical service quality (Cleary & McNeil, 1988).

China is one of the most populous countries in the world, and the risk of incidence rate and mortality of infectious diseases is very high, which brings great pressure to the medical service industry (Zhang et al., 2007). Although the health service system has made remarkable achievements in China, there are also great problems, such as insufficient medical security coverage, uneven distribution of medical resources, difficult and expensive medical treatment, tense doctor-patient relationship, etc. However, the patient's expectations and requirements for medical and public health services are gradually increasing. The current level of medical and health public services could not fully meet the needs of citizens (Deng et al., 2012). Therefore, this study aims to determine the factors that impact patient satisfaction and behavioral intention in China. According to the results of this study, hospital managers can improve service management, improve patient satisfaction and obtain more customers to improve the market competitiveness of the hospital.

2. Literature Review

2.1 Responsiveness

Tucker and Adams (2012) defined responsiveness as patients' perception of the sensitivity and timeliness of the services provided by the medical system. According to Rice et al. (2012), responsiveness is an important indicator to evaluate whether the medical system meets patients' needs in time. In Karami-Tanha et al. (2014) 's research, responsiveness was regarded as a non-clinical method for the health system to satisfy patients' reasonable demands. Anabila et al. (2019) regarded responsiveness as the urgency and sincerity that the hospital showed when responding to the needs/emergencies of the patient, which affected the confidence of patients. According to the research of Roshnee Ramsaran-Fowdar (2008), responsiveness was defined as the time the patient waited in the hospital and spent with the doctor.

Boshoff and Gray (2004) pointed out that responsiveness affected patients' expectations of non-medical care and patient satisfaction. According to Williams (1994), a medical response system could promote patient health by improving the interaction between the medical system and the patient. Besides, Rice et al. (2012) confirmed that the patient's health status could be improved by improving their compliance with treatment recommendations. In addition, Kitapci et al. (2014) investigated the relationship between responsiveness and patient satisfaction and stated that responsiveness could significantly affect patient satisfaction. Responsiveness mainly included informing the service's time and scope, willingness, timeliness, and not being too busy to deal with customer problems (Dean, 1999). Karami-Tanha et al. (2014)' s research revealed that hospital responsiveness could significantly impact patient satisfaction. Andaleeb (2001) also found a significant relationship between responsiveness and patient satisfaction. Many other studies also confirmed that responsiveness was an effective factor in patient satisfaction (Naidu, 2009). Thus, a hypothesis is conducted:

H1: Responsiveness has a significant impact on patient satisfaction.

2.2 Empathy

Ampaw et al. (2020) defined empathy as the capability of the healthcare service provider to better recognize and serve patients with more awareness. Anabila et al. (2019) defined empathy as the polite attitude of medical staff toward being willing to listen, understand and provide detailed information to patients. According to Boshoff and Gray (2004), empathy could be defined as the ability to serve patients in terms of understanding, attention, response-ability, work efficiency, and enthusiasm/caring attitude. The study by Mahmud et al. (2021) mentioned that empathy refers to understanding the patient's condition during the treatment and being interested in providing personalized services.

Tucker and Adams (2012) pointed out that empathy refers to the attitude of sympathy of the medical service provider toward the patient. It was found that empathy

played a vital role in affecting the satisfaction of medical tourists (Mahmud et al., 2021). This was further coherent with Ampaw et al. (2020), who believed that empathy positively correlated with satisfaction. In Nekoei-Moghadam and Amiresmaili (2011)'s research, empathy was very important as the medical industry was "relationship marketing" rather than "transaction marketing," which needed to provide "high-tech" suggestions to maintain and develop customer relationships. This was confirmed by Anabila et al. (2019), who emphasized that medical service institutions should strive to improve their "empathy" for patients, focus on in-depth communication with patients, and act quickly at any time to show their attitude of sincere consideration for patients. Dyck (1996) believed that if medical service providers made service more "empathy," it would lead to higher patient satisfaction. This was also confirmed by Kitapci et al. (2014), who reported that empathy strongly affected customer satisfaction. Hence, this study hypothesizes that:

H2: Empathy has a significant impact on patient satisfaction.

2.3 Assurance

Owusu-Frimpong et al. (2010) defined assurance as the behavior of providing safety and health services for patients. Javed and Liu (2018) thought assurance was the professional knowledge and polite attitude of medical staff, which would stimulate patients' trust and confidence. Moreover, Rust and Zahorik (1996) considered assurance to be the comprehensive embodiment of the medical service team's professional knowledge, skills, and reputation. Herstein and Gamliel (2006) defined assurance as the professional competence, professional skill level, vocational qualification level, and reputation of medical personnel and administrative administrators. According to Dyck (1996), assurance is regarded as the skills and professional attitudes required by medical personnel and the image of integrity and safety services.

Owusu-Frimpong et al. (2010) classified assurance into two aspects: trust and goodwill, which were very important to the patient as the outcome in the healthcare industry were neither easy to predict nor understand. In Herstein and Gamliel (2006)'s research on patients in the outpatient department and inpatient department, it was confirmed that several important attributes guaranteed assurance: medical response speed, treatment instructions, courtesy of hospital employees, speed, and accuracy of obtaining information. (Andaleeb, 2001) used the SERVQUAL model to evaluate patient satisfaction with provided services in hospitals and found that assurance had the greatest impact on patient satisfaction. Anabila et al. (2019) pointed out that hospitals should lay stress emphasizing "assurance" to stimulate people's confidence in the healthcare system. Furthermore,

Ali et al. (2018) confirmed that assurance significantly impacted patient satisfaction. This was consistent with the study of Kitapci et al. (2014), who revealed that assurance played an influential factor in patient satisfaction. While Roshnee Ramsaran-Fowdar (2008) also pointed out that a positive relationship existed between assurance and patient satisfaction. Boshoff and Gray (2004) stated that assurance would enhance patient satisfaction and loyalty. Hence, a hypothesis is developed:

H3: Assurance has a significant impact on patient satisfaction.

2.4 Reliability

Kitapci et al. (2014) pointed out that reliability is the ability to carry out the promised service fairly, equitably, dependably, and accurately. Zeithaml et al. (1996) regarded reliability as the consistency of dependability and performance and the correctness of each task performed. While, Roshnee Ramsaran-Fowdar, (2008) defined that reliability was not only a reflection of the ability to execute but, more importantly, it represented whether the hospital can provide fair treatment for every patient. Dean (1999) indicated that reliability effectively transformed patients' negative attitudes into positive attitudes toward health service.

Andaleeb (2001) emphasized that the sufficiency and dependability of services were the important dimensions of reliability. At the same time, Ali et al. (2018) regarded reliability results as the total score of the four variables (Tangibility + Responsiveness + Assurance + Empathy). According to Nekoei-Moghadam and Amiresmaili (2011), if hospitals performed well in terms of reliability, they would obtain high-quality perception scores. Rehaman and Husnain (2018) also investigated the relationship between reliability and patient satisfaction and confirmed that reliability could influence patient satisfaction. It was mentioned by the Service Quality (SERVQUAL) model that reliability was the most important dimension of service quality, which would lead to patient satisfaction (Dean, 1999). Sewell (1997) also confirmed that reliability was key in meeting patient satisfaction and intention to return to the hospital. Besides, Rust and Zahorik (1996) used a consumer satisfaction index model to investigate patient satisfaction levels and confirmed that reliability could affect significant influence patient satisfaction. As a result, a hypothesis is proposed:

H4: Reliability has a significant impact on patient satisfaction.

2.5 Tangible

Ampaw et al. (2020) proposed that tangibles were the patient's first impression of the medical service system.

Zeithaml et al. (1996) did further work. They pointed out that the patient's impression of the healthcare system was a key factor influencing their evaluation of the quality of medical care. This theory was confirmed by Sewell (1997), who believed that tangibles represented the hospital's service quality. Moreover, Herstein and Gamliel (2006) regarded tangibles as an atmosphere with aesthetic quality and a sub-dimension of medical service quality. According to Karami-Tanha et al. (2014), tangibles are hospital employees, excellent medical equipment, and good professional skills. It was considered that any attribute related to physical objects was tangible, including the appearance of medical equipment, physical facilities, and service personnel in contact with patients.

It was considered that the basic need of patients was tangibles Kitapci et al. (2014), and good tangibles can make it easy for patients to find the exact location of the parking lot leading to various hospital departments. At the same time, Ali et al. (2018) noted that tangibles were also conducive to accurately positioning patients and medical personnel in the complex medical environment. Mahmud et al. (2021) used a four-dimensional instrument of the HEALTHQUAL model for estimating medical tourists' overall satisfaction. They found out that all dimensions, including tangibility, had a positive level of significance on it. Dagger and Sweeney (2007) confirmed that the priority of medical service experience evaluation was tangible, especially for new customers. Herstein and Gamliel (2006) believed that it was difficult for the patient to evaluate the outcome of medical care. Hence, they preferred to evaluate the tangible, which explained the importance of tangible to satisfaction. In Andaleeb's (2001)' s research, it was confirmed that tangibles significantly impacted inpatient satisfaction. Belaid et al. (2015) also noted that the key factor impacting patient satisfaction was tangible. Many other studies also confirmed a strong correlation between tangibles and patient satisfaction (Javed & Liu, 2018). Based on above discussions, a following hypothesis is set:

H5: Tangible has a significant impact on patient satisfaction.

2.6 Image

Keller (1993) regarded image as the patient's overall impression of the brand, which was the interaction between the subject and object. The subject perceived the object in a certain way under a certain perceptual situation. While Han and Back (2008) referred that image was the subjective judgment of consumers on the image of the company, which was a psychological schema produced by people reflecting the object. Sumaedi et al. (2016) noted that image was the psychological experience of patients for all memories, feelings, beliefs, and knowledge of the medical system. According to Barich and Kotler (1991), the image could be

an associative aggregate formed psychologically by personal attitude and cognition toward the brand.

Padma et al. (2010) confirmed that image was a significant predictor of patient satisfaction. Those medical service institutions with strong corporate images conveyed a concept to patients that they had superior medical facilities and professional medical teams to ensure the best service quality. The image was crucial for patient satisfaction because most patients cannot assess the ability of medical technology (Sumaedi et al., 2016). Therefore, patients often use the image as an emotional filter to decode information from medical institutions, deeply affecting their satisfaction (Allil et al., 2016). Moreover, Han and Back (2008) pointed out that brand image plays an important role in consumers' decision-making process, and hospitals use it to maintain market position and enhance competitiveness. According to Keller (1993), the image would make patients ignore the negative aspects of service and pay more attention to the positive aspects of service. The same result was also reflected in the study of Barich and Kotler (1991), who confirmed that image was an important factor in improving patient satisfaction. Thereby, sixth hypothesis is as followed:

H6: Image has a significant impact on patient satisfaction.

2.7 Patient Satisfaction

Dayan et al. (2022) described patient satisfaction as a psychological state, which refers to a person's subjective evaluation of the quality of a relationship. Karami-Tanha et al. (2014) defined patient satisfaction as one of the most important indices to measure the quality of medical service and the symbol of medical success. Amin and Zahora Nasharuddin (2013) also interpreted patient satisfaction as an emotion about the difference between patients' expectations and perceptions. According to Chaniotakis and Lymperopoulos (2009), patient satisfaction was a multidimensional attitude and an overall subjective evaluation of the experience of various dimensions of medical services. Satisfaction was considered the relative relationship between customers' expectations for products or services and their actual feelings after using products or services (Boshoff & Gray, 2004).

Amin and Zahora Nasharuddin (2013) believed that patient satisfaction was key for medical institutions to establish and maintain a good service relationship with patients. Fitzpatrick and Hopkins (1983) found a positive correlation between patient satisfaction, treatment compliance rate, health status, and survival rate. The researchers also concluded that positive psychological factors of patients might lead to immunity. In addition, according to the survey results of Dayan et al. (2022), patient satisfaction played an intermediary effect between the dimensions of tangibility, assurance, empathy of service

quality, and behavioral intention. In addition, according to Chaniotakis and Lymperopoulos (2009), a significant relationship existed between patient satisfaction and behavioral intention. The same result was confirmed in the study of Kessler and Mylod (2011), who pointed out that patient satisfaction would positively affect behavioral intention. In other words, patient satisfaction can enhance the hospital's competitive advantage, and it is a "quality experience" that is difficult to copy competitors (Naidu, 2009). Accordingly, a proposed hypothesis is presented:

H7: Patient Satisfaction has a significant impact on behavioral intention.

2.8 Behavioral Intention

Zeithaml et al. (1996) saw behavioral intention as the relationship between patients and medical service providers. Rust and Zahorik (1996) defined the patient's behavior intention as the willingness to go back to the hospital and recommend it to others. It was confirmed by Giovanni et al. (2018), who believed that behavior intention was loyalty to the hospital. According to Amin and Zahora Nasharuddin (2013), behavioral intention referred to the first choice of patient visiting hospital, and it indicated that patient was likely to return to the same hospital.

Giovanni et al. (2018) found that behavioral intention was a predictor of service provider performance, and it was the key factor for the hospital to maintain a long-term relationship with patients (Amin & Zahora Nasharuddin, 2013). Dagger and Sweeney (2007) perceived service quality affected satisfaction, while satisfaction positively affected behavioral intention. Therefore, satisfaction was an intermediary variable between perceived service quality and behavioral intention (Tanasapsakul & Vongurai, 2018). In addition, according to Chaniotakis and Lymperopoulos (2009), there was significant relationship existed between patient satisfaction and behavioral intention.

3. Research Methods and Materials

3.1 Research Framework

The research framework was developed based on three core theories and previous theoretical frameworks. The three theories were: service quality (SERVQUAL) by Parasuraman et al. (1988), the European Customer Satisfaction Index (ECSI) by (Eklof, 2000), and Cronin and Taylor's model (C&T Model) by Gotlieb et al. (1994). Moreover, the first previous theoretical framework was conducted by Rehaman and Husnain (2018). It provided six variables: tangibles, assurance, reliability, responsibility,

empathy, and satisfaction. The second previous theoretical framework was developed by (Sumaedi et al., 2016). It supplied image and satisfaction. The third previous theory was built by (Elleuch, 2008). It provided satisfaction and behavioral intention. The research framework is shown in Figure 1.
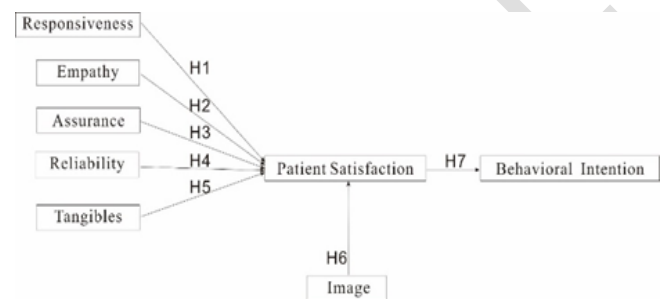

Figure 1: Conceptual Framework

The research framework aims to explain how responsiveness, empathy, assurance, reliability, tangibles, image, and satisfaction affect the behavioral intention of outpatients in Chengdu, China. Besides, the relationships between the eight variables were investigated per hypotheses stated below:

H1: Responsiveness has a significant impact on patient satisfaction.

H2: Empathy has a significant impact on patient satisfaction.

H3: Assurance has a significant impact on patient satisfaction.

H4: Reliability has a significant impact on patient satisfaction.

H5: Tangible has a significant impact on patient satisfaction.

H6: Image has a significant impact on patient satisfaction.

H7: Patient satisfaction has a significant impact on behavioral intention.

3.2 Research Methodology

This study used questionnaires to investigate outpatients undergoing treatments in 20 hospitals in Chengdu, China, in 2022. Research ethic is declared that respondents provided the consents to use the data and there are no personal data involved. The questionnaire was divided into three parts screening questions, measurement variables, and demographic questions. Likert five-point scale (Likert, 1932) was used to measure variables. In addition, before the questionnaire survey, the researchers used the index of item objective consistency (IOC) to evaluate the content validity. A pilot test was also conducted by distributing questionnaires

to 30 target populations to test the reliability of the questionnaire by Cronbach's Alpha. Then the questionnaires were delivered to 600 outpatients, which resulted in 500 accepted responses. Finally, Confirmatory Factor Analysis (CFA) and structural equation modeling (SEM) were analyzed by SPSS AMOS software.

3.3 Population and Sample Size

Weathington et al. (2012) suggested that the target population was a complete set of elements related to the study. The target population in this research were outpatients who had undergone hospital service in Chengdu, China, in 2022. Kotler and Armstrong (2016) pointed out that the sample size referred to the total number of sample elements extracted from the population. In addition, this study used the calculator Soper (2015) developed to calculate the appropriate sample size, and the recommended minimum sample size was 444. However, Hair et al. (2010) pointed out that the appropriate size of the sample depended on the density measured by the model. Therefore, 600 questionnaires were distributed to the target population, and 500 valid questionnaires were ultimately used.

3.4 Sampling Technique

The researcher used non-probability sampling as the sampling technique. In addition, the sampling procedure of this study was divided into three steps: judgmental, quota sampling, and convenience sampling. First, judgmental sampling targeted outpatients receiving services from 20 Chengdu public and private hospitals. Then, quota sampling was applied to collect data proportionately, as shown in Table 2. After obtaining the outpatients' consent, the researcher used convenience sampling to distribute online questionnaires to participants via email, social media, and WeChat.

Table 1: Quota Sampling

Hospital Type	Population Size of Outpatient (Thousand)	Proportional Sample Size
Public hospitals	54749.4	404
Private hospitals	12942.6	96
Total	**67692.0**	**500**

Source: Created by the author

4. Results and Discussion

4.1 Demographic Information

As shown in Table 2, among 500 respondents, 282 (56.4%) were males, and 218 (43.6%) were females. The majority age ranged between 18-30 years old, representing 26.4%, followed by 31-40 years old (25.8%), 41-50 years old (15.6%), 51-59 years old (15.2%), 60 years old or over (12.4%) and below 18 years old (4.6%). As regarding marital status, most respondents were married (73.6%), followed by single (23.2%) and divorced (3.2%). Regarding education, most respondents graduated with a bachelor's degree or below, representing 47.2%, followed by Master's degree and Doctor's degree, representing 37%, and 15.8%, respectively.

Table 2: Demographic Profile

Demographic and Behavior Data (N=500)		Frequency	Percentage
Gender	Male	282	56.4
	Female	218	43.6
Age	Below 18	23	4.6
	18-30	132	26.4
	31-40	129	25.8
	41-50	78	15.6
	51-59	76	15.2
	60 years old or over	62	12.4
Marital Status	Single	116	23.2
	Married	368	73.6
	Divorce	16	3.2
Education	Bachelor's degree or below	236	47.2
	Master's degree	185	37
	Doctor's Degree	79	15.8

4.2 Confirmatory Factor Analysis (CFA)

From Table 3, Cronbach's Alpha was used to test the reliability of the questionnaire. In this study, the alpha coefficient values of all groups were higher than 0.7, which indicated that all structures were reliable. In addition, Byrne (2001) pointed out that convergent and distinct validity were two methods for construct validity, which could be confirmed through CFA. In this study, factor loading, average variance extracted (AVE), and complete reliability (CR) were usually used to test the convergence validity of the conceptual model (Hair et al., 2013). In this study, factor loading values of all variables were higher than 0.5, and p-value lower than 0.05 were considered acceptable (Hair et al., 2013). Besides, CR values of all variables above 0.7 and AVE values of all variables above 0.5 are considered adequate.

Discriminant validity was confirmed when the AVE's square root was larger than any intercorrelated construct coefficient (Fornell & Larcker, 1981). In this study, the square root of all AVE values is greater than inter-construct correlations. Thus, discriminant validity can be accepted for the measurement model (see Table 5).

Table 3: Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire	No. of Items	Cronbach's Alpha	Factors Loading	CR	AVE
Responsiveness (RES)	Kitapci et al. (2014)	3	0.814	0.752 –0.788	0.816	0.596
Empathy (EMP)	Ampaw et al. (2020) and Sema et al. (2017)	3	0.887	0.806 – 0.893	0.878	0.706
Assurance (ASS)	Rehaman and Husnain (2018) and Ratnawati et al. (2021)	3	0.879	0.814 – 0.874	0.771	0.532
Reliability (REL)	Sema et al. (2017)	3	0.835	0.740 – 0.831	0.837	0.632
Tangibles (TAN)	Ali et al. (2018) and Sema et al. (2017)	6	0.870	0.581 – 0.904	0.874	0.540
Image (IMA)	Coutinho et al. (2019)	3	0.772	0.713 – 0.759	0.773	0.531
Patient Satisfaction (PS)	Dagger and Sweeney (2007); Ampaw et al. (2020)	3	0.752	0.641 – 0.779	0.762	0.517
Behavioral Intention (BI)	Dagger and Sweeney (2007)	3	0.807	0.701 – 0.866	0.810	0.589

Confirmatory factor analysis (CFA) was used to test whether the measurement model between the observed variables and potential variables in the measurement model was consistent with the observed data (Brown, 2015). Ainur et al. (2017) indicated that Good-of-Fit (GoF) was used to measure the fitting degree of the measurement model. Table 4 showed the values of GoF were CMIN/DF = 1.830, GFI = 0.927, AGFI = 0.906, NFI=0.924, CFI = 0.964, TLI = 0.957, and RMSEA = 0.041.

Table 4: Goodness of Fit for Measurement Model

Index	Acceptable Values	Statistical Values
CMIN/DF	< 5.00 (Al-Mamary et al., 2015; Awang et al., 2012;)	1.830
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.927
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.906
NFI	≥ 0.80 (Wu & Wang, 2006)	0.924
CFI	≥ 0.80 (Bentler, 1990)	0.964
TLI	≥ 0.80 (Sharma et al., 2005)	0.957
RMSEA	< 0.08 (Pedroso et al., 2016)	0.041
Model Summary		Acceptable Model Fit

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index, and RMSEA = Root mean square error of approximation

Discriminant validity was confirmed when the AVE's square root was larger than any intercorrelated construct coefficient (Fornell & Larcker, 1981). In this study, the square root of all AVE values is greater than inter-construct correlations. Thus, discriminant validity can be accepted for the measurement model (see Table 5).

Table 5: Discriminant Validity

	RES	EMP	ASS	REL	TAN	IMA	PS	BI
BE	**0.772**							
RES	0.474	**0.840**						
EMP	0.545	0.726	**0.729**					
ASS	0.425	0.427	0.422	**0.795**				
REL	-0.037	-0.005	0.005	-0.039	**0.735**			
TAN	0.221	0.288	0.328	0.107	-0.048			
IMA	0.606	0.496	0.555	0.512	-0.061	**0.729**		
PS	0.316	0.249	0.238	0.315	-0.077	0.238	**0.719**	
BI	0.772	0.840	0.729	0.795	0.735	0.038	0.304	**0.767**

Note: The diagonally listed value is the AVE square roots of the variables
Source: Created by the author

4.3 Structural Equation Model (SEM)

SEM is a statistical method to analyze the relationship between variables based on the covariance matrix of variables (Zhang et al., 2007). The Good-of-fit indices are shown in Table 6. The results of statistical values are CMIN/DF = 3.274, GFI = 0.857, AGFI = 0.819, NFI= 0.863, CFI = 0.900, TLI = 0.883, and RMSEA = 0.068. Consequently, from the values above, the fit of structural models is confirmed.

Table 6: Goodness of Fit for Structural Model

Index	Acceptable	Values
CMIN/DF	< 5.00 (Al-Mamary et al., 2015; Awang et al., 2012;)	3.274
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.857
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.819
NFI	≥ 0.80 (Wu & Wang, 2006)	0.863
CFI	≥ 0.80 (Bentler, 1990)	0.900
TLI	≥ 0.80 (Sharma et al., 2005)	0.883
RMSEA	< 0.08 (Pedroso et al., 2016)	0.068

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index, and RMSEA = Root mean square error of approximation

4.4 Research Hypothesis Testing Result

The structural equation model combines the measurement structure in factor analysis with the path analysis framework by setting potential and unobserved constructs. It can distinguish the measurement model from the structural model (Lefcheck, 2021). The observation variables of the measurement concept are from the former. At the same time, the latter constructs the relationship between the constructs, and the intermediary path is included in the structural model. Meanwhile, the path coefficient measures the correlation between the external and internal potential variables in the structural equation model. Based on Table 7, hypotheses testing results reveal that H1, H2, H3, H4, and H7 are supported, and H5 and H6 are not.

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-Value	Result
H1: RES → PS	0.565	8.204*	Supported
H2: EMP → PS	0.117	2.931*	Supported
H3: ASS → PS	0.333	6.234*	Supported
H4: REL → PS	0.447	7.256*	Supported
H5: TAN → PS	-0.064	-1.462	Not Supported
H6: IMA → PS	0.053	1.133	Not Supported
H7: PS → BI	0.415	6.008*	Supported

Note: * p<0.05
Source: Created by the author

The explanation of research hypothesis testing is as follows (see Table 7):

H1: Responsiveness has a significant positive impact on patient satisfaction, with a standardized path coefficient was 0.565 and a t-value of 8.204*. It implied that success in responsiveness could lead to patient satisfaction. Moreover, responsiveness is the most natural feeling of the overall services. It represents the reasonable expectation of patients to obtain timely and comfortable services during their interaction with the medical system (Karami-Tanha et al., 2014). Our findings were consistent with the previous studies of Boshoff and Gray (2004), Andaleeb (2001), Naidu (2009), and Karami-Tanha et al. (2014), who pointed out that responsiveness could significantly impact patient satisfaction.

H2: Results showed that empathy significantly impacted patient satisfaction, which supports the standardized path coefficient of 0.117 and t-value at 2.931*. This showed that understanding, care, and consideration could eliminate the tension of patients and make patients feel comforted and satisfied. Thus, patients would be in the best psychological state required for treatment. The finding agreed with the results of Dyck (1996), who believed that if medical service providers did service more "empathy," it would lead to higher patient satisfaction. Moreover, this was also proved by Fottler et al. (2013), who concluded that empathy was positively related to patient satisfaction.

H3: The hypothesis was supported that service quality significantly positively impacted perceived usefulness from a standardized path coefficient of 0.333 and t-value at 6.234*. It was aligned with the study of Ratnawati et al. (2021) that assurance was not important to patients. Besides, Akter et al. (2013) declared that the sense of assurance would affect patient satisfaction with the quality of medical and healthcare services to a certain extent, and it might lead to patients deciding to continue or stop the medical and healthcare services. Overall, It implied that the higher-level sense of assurance, the higher patient satisfaction would be.

H4: Our findings indicated that reliability significantly impacted patient satisfaction with a standardized path coefficient of 0.447 and a t-value of 7.256*. A similar result was found by Meesala and Paul (2018) that reliability could positively affect patient satisfaction. Therefore, the diagnosis and treatment technology of the hospital must be mature, safe, and reliable to ensure the effective treatment of patients' conditions and ultimately improve patients' satisfaction.

H5: The standardized path coefficient between tangibles and patient satisfaction was -0.064, and the t-value of -1.462. Therefore, H5 was rejected. Supported by Kitapci et al. (2014), the researcher reported that no relationship between patient satisfaction and the tangibles dimension might result from the hospital's previous failures to provide good and dependable service, which caused reliance problems among its patients.

H6: The hypothesis was not supported for the standardized path coefficient of 0.053 and t-value at 1.133. It suggested that there was no relationship between image and patient satisfaction. Sumaedi et al. (2016) developed and tested a satisfaction structure for health service institutions and found that image did not significantly affect patient satisfaction.

H7: The present study showed that patient satisfaction significantly impacted behavioral intention for the standardized path coefficient of 0.415 and t-value at 6.008*. This implied that patients who were satisfied with the hospital's service and made a positive evaluation of the services institutions were likely to return to the same hospital and recommend it to others. According to Chaniotakis and Lymperopoulos (2009) and Kim et al. (2008), and Wu (2011), there was significant relationship existed between patient.

5. Conclusion, Recommendation and Limitations

5.1 Conclusion and Discussion

In view of the importance of hospitals in monitoring and analyzing patient satisfaction, this paper aimed to explore the factors that impact patient satisfaction and behavioral intention in Chengdu, China. The conceptual framework was developed from three core theories and previous theoretical frameworks. The variables included in the conceptual framework were responsiveness, empathy, assurance, reliability, tangibles, image, patient satisfaction, and behavior intention. Moreover, the researcher proposed seven hypotheses that corresponded with the research questions. Then, the researcher conducted a pilot experiment on 30 responses and used the index of item objective consistency (IOC) and Cronbach's alpha to test the validity and reliability of the questionnaire. With the collected data the data from 500 patients in Chengdu, China, was collected by non-probabilistic sampling technology. Besides that, Confirmatory factor analysis (CFA) was used to assess the convergent and discriminant validity of the measurement model. A structural equation model (SEM) was applied to test the effect of measured variables and conclude the research.

The findings of this research can be described as follows. First, the results of the present study revealed that patient satisfaction had a positive and significant impact on behavioral intention. Patient satisfaction was an important indicator of behavioral intention (Amin & Zahora Nasharuddin, 2013), and it was also an evaluation of treatment results and medical services and an important measure to understand the quality of hospital medical services, medical ethics, and other projects. Hence, promoting patient satisfaction should be emphasized. Second, responsiveness had the strongest impact on patient satisfaction. The hospital should strengthen the training of employees to improve their service awareness of sincerely helping patients so that patients can feel that their doctors should be accessible. Third, reliability was the second rank of influencer score on patient satisfaction. The previous literature of Andaleeb (2001) found that a significant relationship existed between responsiveness and patient satisfaction. Hence, the training of employees should be improved so that patients can feel that their doctors should be accessible. Finally, the results indicated that empathy and assurance were the main factors positively influencing patient satisfaction. The finding also reflected the theory and previous studies of Anabila et al. (2019) and Andaleeb (2001) that empathy and assurance could influence patient satisfaction.

In summary, the determinants of patient satisfaction were responsiveness, empathy, assurance, and reliability. In addition, patient satisfaction was a key factor in predicting behavioral intention.

5.2 Recommendation

For theoretical implications, the researcher developed the conceptual framework based on three core theories, namely, Service Quality (SERVQUAL), the European Customer Satisfaction Index (ECSI), and Cronin & Taylor's model (C&T Model). First, SERVQUAL was not fully confirmed in this study because only four of the five structures were related to patient satisfaction. This may be because the sample of this study was only outpatient, and the time of this survey was during COVID-19, which resulted in outpatient patients not paying enough attention to the tangibles. Second, the relationship between patient satisfaction and behavioral intention, getting on C&T Model, was confirmed. The findings of the present study showed that patient satisfaction had a significant impact on behavioral intention. It was supported by previous research by Zarei et al. (2014), Donabedian (2010), Kim et al. (2008), and Wu (2011). Last, the image from ECSI was not proven to impact patient satisfaction significantly. This might be explained by the fact that small and medium-sized hospitals could meet the needs of most outpatient patients for the treatment of conventional diseases. Therefore, most outpatient patients do not pay much attention to the hospital's image.

For practical implications, this research found that patient satisfaction played a role in predicting behavioral intention. Moreover, patient satisfaction was significantly affected by responsiveness, empathy, assurance, and reliability. The practical significance might be that it could play a role in implementing a hospital patient satisfaction strategy. After understanding the factors that affect patients' satisfaction and behavior intention, the hospital should put forward targeted improvement measures according to their actual situation to enhance competitiveness. In short, the hospital should strengthen management, take patients as the center, truly regard patients as the most important service object, improve services from the perspective of patients, and refine a humanized service atmosphere.

5.3 Limitation and Further Study

Even though this research had found some interesting findings, there were certain limitations to this study that need to be noted, and the following were recommendations for further research. Firstly, the field of this study was the health service industry, which had the common characteristics of the service industry. Therefore, the results of this study might not apply to other industries. Moreover, the data collected in the study were not classified according to patient cases. Research on patients with different cases may be conducted to get more accurate results.

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