

Hospitality and Customer Service Perceptions: Perspectives of Thai Public and Private Hospitals

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Abstract

Patient satisfaction and its determining factors are important topics in modern hospital management. This study aims to assess the level of patient satisfaction and service quality through application of the SERVQUAL model. The study makes use of primary data collected from the patients of five departments of 2 hospitals, one public and one private hospital. Responses showed that patient satisfaction at the public hospital was most heavily influenced by reliability, assurance, and empathy. At the private hospital, reliability, assurance, tangibility, and responsiveness were the main determinants. All in all, employee behavior (assurance) seems to be the most important driver of patient satisfaction at a public hospital setting service (reliability) in a private hospital session.

Keywords: Servqual model, customer satisfaction, public hospital,

private hospital

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การรับรู้ของผู้รับบริการเกี่ยวกับการบริการที่ได้รับ : มุ่งมองของโรงพยาบาลรัฐบาลและโรงพยาบาลเอกชนในประเทศไทย

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บทคัดย่อ

ปัจจุบันนี้การค้นหาปัจจัยที่ส่งผลต่อความพึงพอใจของผู้รับบริการมีความสำคัญมากทั้งในส่วนของโรงพยาบาลรัฐบาลและเอกชน การศึกษาครั้งนี้มีวัตถุประสงค์เพื่อประเมินความพึงพอใจของผู้รับบริการโดยใช้โมเดล SERVQUAL และทำการเก็บแบบสอบถามจากโรงพยาบาลรัฐบาลและเอกชนจำนวนอย่างละ 1 แห่ง มีการเก็บข้อมูลจาก 5 หน่วยงานโดยผู้รับบริการแสดงความคิดเห็นโดยการตอบแบบสอบถามที่ได้รับ จากผลการวิจัยพบว่า ความพึงพอใจของผู้รับบริการที่มาใช้บริการจากโรงพยาบาลรัฐบาล ผู้รับบริการรู้สึกพึงพอใจในความน่าเชื่อถือในการให้บริการ การประกันการให้บริการและความเข้าใจในความรู้สึกของผู้รับบริการ และเมื่อเปรียบเทียบกับโรงพยาบาลเอกชนพบว่าผู้รับบริการมีความพึงพอใจในความน่าเชื่อถือในการให้บริการ การประกันการให้บริการและการรู้สึกสัมผัสได้และความรับผิดชอบในการให้บริการ และจากผลสรุปของปัจจัยที่มีความสำคัญและเป็นแรงผลักดันที่ส่งผลต่อความพึงพอใจของผู้รับบริการมากที่สุดในโรงพยาบาลรัฐบาลคือ พฤติกรรมของพนักงาน(ด้านการประกันการบริการ) และในส่วนของโรงพยาบาลเอกชนคือ การบริการ (ด้านความน่าเชื่อถือได้) ที่ส่งผลต่อความพึงพอใจของผู้รับบริการมากที่สุด

คำสำคัญ: Servqual model ความพึงพอใจของผู้รับบริการ โรงพยาบาลรัฐบาล

โรงพยาบาลเอกชน

Introduction

The Thai health care system allows for all citizens to freely choose among both public and private health care providers. This freedom of choice has resulted in intense competition amongst hospitals to attract customers (i.e. patients). Patients in their search for the best service provider have been found to compare hospitals on the basis of information regarding not only quality and cost, but also effectiveness and safety of health services, access and availability, as well as hospitality (Delnoij et al., 2010).

It can thus be argued that the presumed independent, rational choices of patients make them key players with high impacts on hospital operations (Grit, Van de Bovenkamp and Bal, 2008). In a competitive health care market, attracting patients becomes essential to improve hospital performance and requires a strategic approach to the assessment of patients' needs and the alignment of hospital services to meet and exceed such needs.

Especially in recent years hospitals have sought inspiration from the hospitality sector and embraced the integration of proven hotel practices and concepts into the interaction of hospital and patients. Thailand in particular has a well-developed tourism sector for health care providers to learn from and cooperate with.

From a patient perspective speed and an overall flawless, superior experience during the service are central concerns in the Thai health sector and improvements in these areas go a long way in increasing excellence of hospital care quality (Teisburg, Porter and Darkbrown, 1994).

In order to provide superior service and attract patients, it is essential for hospitals to understand patients' needs and priorities. Conducting customer satisfaction surveys is an essential tool for achieving this task.

This study emphasizes hospitality as a central requirement of hospitals and explores the relationships between patient satisfaction and different dimensions of hospitality.

Literature Review

Different concepts of performance in the healthcare sector are continuously developed further to include and integrate different dimensions and stakeholder interests, including those of service providers, patients, as well as government agencies that represent the general public. This study particularly focuses on patient satisfaction and its importance for service providers.

From a performance management perspective, service quality, specifically patients' perceptions of service quality, is of high importance as a competitive advantage in a competitive industry. In order to optimize service quality, performance calibrating tools from the hospitality sector are utilized (Stank et al, 1999; Brady et al, 2002; Choi et al, 2006). It has been found that customer satisfaction is a good proxy to measure service quality. Being aware of patient satisfaction allows hospitals to develop, implement, and evaluate strategies to maximize performance.

The healthcare sector faces a number of conceptual problems as a result of the difficulties associated with clearly defining and measuring healthcare quality. The US Institute of Medicine has defined health care quality as the degree to which health care professionals have the knowledge and competency to provide health care services that consider the specific needs of individual patients and, on a macro level, society in general (Lohr, 1990). This definition is appealing in its sufficient broadness to encompass many conventional and emerging hospitality approaches to quality management. These include caring access, caring processes, outcomes, properness, and consumer satisfaction (Jencks, 1995).

In his meta-analysis of existing studies on healthcare service quality, Donabedian (1980) has identified three common dimensions that drive service quality. These are service technique, inter-personal relations, and amenities (Stiles and Mick, 1994).

Ruud Reuland and his co-authors (Cassee and Reuland, 1983; Reuland et al., 1985) have emphasized the importance of a well balanced combination of three elements in the hospitality service sector, including food and beverage, employee behavior, and the physical environment including building setting, furnishing, layout, lighting, hygiene, etc.

This study applies these particular elements of hospitality management to the hospital setting as independent variables:

- (1) Service: front-stage as well as back-stage service
- (2) Staff behavior: employee's knowledge as well as interpersonal expertise
- (3) Physical environment: accommodation and amenities

Patients' satisfaction of hospital services in general is argued to be heavily influenced by their perception of these three factors.

A popular tool to measure service quality is the SERVQUAL instrument. It has been developed by Parasuraman for the hospitality sector in 1985, originally consisting of 21 dimensions. Parasuraman (1985, 1988) later reduced these to five core dimensions:

- (1) Reliability: the ability to perform the promised services dependably and accurately.
- (2) Responsiveness: the willingness to help patients and provide prompt service.
- (3) Assurance: the knowledge and courtesy of employees as well as their ability to convey trust and confidence.
- (4) Empathy: the provision of caring, individualized attention to patient.
- (5) Tangibility: the appearance of physical facilities, equipment, personnel and communication materials.

SERVQUAL has been widely applied in research and is often referred to as a 'skeleton' for measuring service quality. Many researchers mostly either adopt the SERVQUAL model, or develop a content-specific scale based on it that better reflects the specific needs of the particular context of their research object (Getty and Thompson, 1994). Ladhari (2009) has found SERVQUAL to be an instrument easily applicable to a number of specific industries, including the health care sector. SERVQUAL takes into account both patients' anticipations of services, and their perception of the actual service experience obtained (Zeithaml et al., 1990; Shahin, 2005).

In Thailand the instrument has been successfully applied by Laohasirichai-kulet (2010) in his study of customer loyalty in the Thai health sector.

Conceptual Framework and Hypotheses

As has been demonstrated in the previous literature review, a number of researchers have emphasized service, employee behavior and building settings as key elements of hospitality service, applicable not only to the tourist sector, but also in healthcare.

Service can be broken down into front-stage service and back-stage service. Both are equally important for the functioning of a hospital. While patients can directly observe front-stage service, work processes that take place on the back-stage are largely invisible and only show when mistakes have an impact on the work of front-stage service.

Employee behavior when approaching and interacting with patients and their guests, is critical in the perception of service quality. Particularly in a hospital environment, where many patients are in emotionally heightened states due to illness and other worries, appropriate behavior is essential for a positive patient experience. Khatri (1999) and Jenkins (1997) found that professional staff with good inter-personal relationship skills can be a significant competitive advantage, in particular when institutionalized in organizational culture and work processes.

A pleasant physical environment, including accommodation and available amenities, can act as a potent amplifier for behavior, cognition, and emotions and influence patients' experiences and satisfaction.

The impact of these factors on patient satisfaction can be summarized in the following hypotheses:

H1: Service directly and positively influences patient satisfaction.

H2: Employee behavior directly and positively influences patient satisfaction.

H3: Physical environment directly and positively influences patient satisfaction.

Figure 1 shows the conceptual framework presented and incorporates the hypotheses stated above.

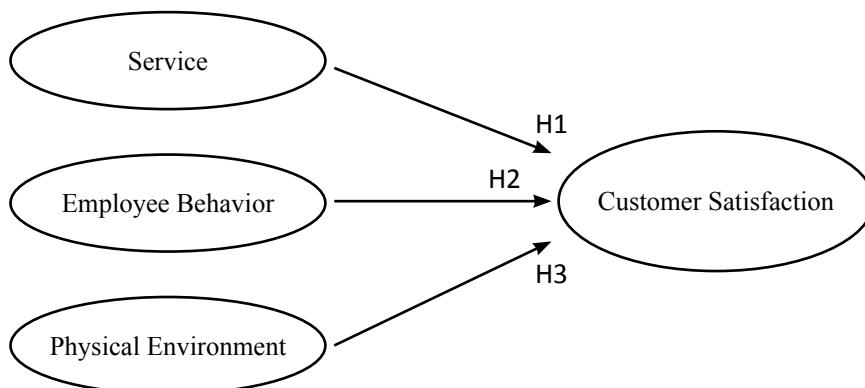


Figure 1: Conceptual Framework

Methodology

Data and Methods

In order to address the above hypotheses and to account for possible differences between public and private hospitals, patients of two successful hospitals in Thailand have been chosen as main informants. The two hospitals selected for data collection are Phyathai 3 Hospital from the network of hospitals belonging to Bangkok Hospital Group and the public Banphaeo Hospital in Samut Sakhorn province. Both hospitals have earned a reputation for management excellence and a focus on applying hospitality concepts to the health care sector in Thailand. By collecting data from these two hospitals, this study can ensure a high level of internal validity for testing the relationships between variables. To provide a wide range of services, questionnaires were distributed to patients of five departments at both hospitals. These departments are 1) General Medicine, 2) Surgery-Orthopedics, 3) Obstetrics-Gynecology, 4) Pediatrics, and 5) Eye Ear Nose Throat departments.

At Banphaeo Hospital, 377 questionnaires were collected through a stratified sampling design. Similarly, in Phyathai 3 Hospital, 383 questionnaires were collected in the same manner.

Measures

Dependent Variable:

The dependent variable, patient satisfaction, is measured by the level of overall satisfaction of individual patients. The respondents replied on a five-point Likert scale with 1 coded as “highly dissatisfied” and 5 coded as “highly satisfied”.

Independent Variables:

The independent variables are service, employee behavior, and physical environment. Each of these is a composite of a number of indicators. Service entails both front stage service and back stage service. Employee behavior is composed of both employee knowledgeability and interpersonal skills. Physical environment includes facilities and accommodation.

These indicators were covered by a number of questions about the patients' expectations of hospitality services. The questionnaires were divided into five sub-categories, which were tangibility, reliability, responsiveness, assurance, and empathy. Answers were coded from 1-5 as strongly disagree, fairly disagree, neutral, fairly agree, and strongly agree respectively.

Method of Analysis

In this study, the descriptive statistics are provided to give a comprehensive picture of the individuals contained in the sample. This includes the appropriate descriptive statistics according to variable type for all independent and dependent variables, as well as more general demographic information and consumed healthcare services. In addition correlations and Pearson product moment were used to explore the relationship and the strength of the relationships among variables and Multiple Regression Analysis (MRA) with control variables was used for analyzing the effects of service quality on patient satisfaction.

Results

As can be seen from the descriptive statistics displayed in table 1, respondents at Banphaeo Hospital were mainly female, single, and aged between 21 and 30 years. Most have finished vocational education level, have a monthly income of between 10,000 and 15,000 Baht and live in their own houses. Slightly more than half the respondents have never been serviced by the hospital before, while a vast majority has previously used public hospitals and pays treatments themselves.

About 70% of respondents were highly satisfied and about 60% intend to use services at Banphaeo again. Nearly all respondents are willing to refer the hospital to others.

At Phyathai 3 hospital, the majority of respondents were female and single as well, but slightly older at an age between 31 and 40 years. Most patients have a higher education degree, earn an average income of 26,000 Baht or higher and live in their own houses. Most patients have not been serviced at Phyathai 3 and a majority has used private hospitals before. About 45% pay treatment themselves.

About 70% of respondents were highly satisfied and about 85% intend to use services at Phyathai 3 again. Nearly 95% of respondents are willing to refer the hospital to others.

Table 1: Number and Percent of Respondents' General Data

General Data	Banphaeo		Phyathai 3	
	N	Percent	N	Percent
1. Sex				
Male	107	31.5	91	28.5
Female	233	68.5	228	71.5
2. Age				
18-20 Yrs.	47	13.4	21	6.0
21-30 Yrs.	85	24.3	69	19.8
31-40 Yrs.	72	20.6	142	40.7
41-50 Yrs.	71	20.3	63	18.1
51-60 Yrs.	36	10.3	28	8.0
61-70 Yrs.	36	10.3	21	6.0
71 Yrs or higher	3	.9	5	1.4
3. Education				
Literate	56	16.0	13	3.8
Primary Education	36	10.3	15	4.4
Secondary Education	57	16.3	52	15.2
Vocational Education (Certificate, Diploma)	102	29.1	45	13.1
Higher Education	86	24.6	142	41.4
Master's Degree	11	3.1	69	20.1
Doctorate Degree	2	.6	7	2.0
4. Occupation				
Civil servant	7	2.0	14	4.0
Private employee	2	.6	57	16.3
State enterprise employee			7	2.0
Business owner	1	.3	100	28.6
Irregular project work	20	5.7	19	5.4
Independent agency			3	.9
Other	320	91.4	150	42.9

Table 1 (continued): Number and Percent of Respondents' General Data

General Data	Banphaeo		Phyathai 3	
	N	Percent	N	Percent
5. Marital Status				
Married	195	56.2	226	65.7
Single	109	31.4	105	30.5
Divorced	43	12.4	13	3.8
6. Salary				
10,000-15,000 Baht	186	53.4	51	16.1
16,000-20,000 Baht	81	23.3	65	20.5
21,000-25,000 Baht	26	7.5	68	21.5
26,000 Baht or higher	55	15.8	133	42.0
7. Residence				
Home	235	74.6	264	77.6
Living in relatives' home	3	1.0	35	10.3
Rented house	76	24.1	41	12.1
Other (specify)	1	.3		
8. Service Experience (Have you ever been serviced in this hospital?)				
Yes	145	42.2	209	60.9
No	199	57.8	134	39.1
9. Which health service providers or hospitals have you used?				
Public hospital	321	91.7	61	20.3
Private hospital	28	8.0	229	76.1
Other health service providers	1	.3	3	1.0
Public and Private hospital			8	2.7
10. If you have ever received health services: Who is responsible for your medical expenses?				
Own expenses	302	86.3	146	44.6
Insurance company	46	13.1	126	38.5
Other	2	.6	23	7.0
Own expenses and insurance company			27	8.3
Own expenses and others			2	.6
Insurance company and others			3	.9

Table 1 (continued): Number and Percent of Respondents' General Data

General Data	Banphaeo		Phyathai 3	
	N	Percent	N	Percent
11. I shall refer the hospital to others				
Yes	340	98.0	309	93.4
No	7	2.0	22	6.6
12. Have you ever had any problems when receiving hospital services?				
Yes	76	21.7	142	41.8
No	273	78.0	135	39.7
Never admitted to any hospitals over the past six months.	1	.3	63	18.5
13. Which health service providers or hospitals in Bangkok have you used before?				
Public hospital	301	86.0	57	16.6
Private hospital	16	4.6	244	71.1
Never admitted to both public and private hospitals	33	9.4	13	3.8
Public and private hospitals			29	8.5
14. Are you satisfied with service provided by the hospital?				
Highly satisfied	254	72.6	90	26.3
Satisfied	89	25.4	236	69.0
Dissatisfied	6	1.7	13	3.8
Highly dissatisfied	1	.3	2	.6
15. Do you intend to use the service from this hospital again?				
Certainly	299	85.4	218	63.7
Probably	47	13.4	113	33.0
Not at all	4	1.1	11	3.2

Table 2 shows mean, standard deviation, and opinion level toward service obtained, the results showed as follows:

At Banphaeo hospital, ranges of means are in 4.17 to 3.86. The question with the highest mean is “Excellent service hospital should not provide services such as providing repeated information on the same topics” with a mean of 4.17, the second highest mean is “Excellent service hospital staff should be polite, well-mannered and courtesy to patients” with a mean of 4.15 and the lowest mean is “Excellent hospital should be furnished with modern equipment and be always standard” with a mean of 3.86.

For the tangibility of services construct, the question with the highest mean is “Excellent hospital should provide utensils and equipment, for example, leaflets with clear and accurate information about the hospital” with a mean of 4.13 while the question with the lowest mean is “Excellent hospital should be furnished with modern equipment and be always standard” with a mean of 3.86. In addition, the majority of opinion level is fairly agreed.

For the reliability of services construct, the question with the highest mean is “Excellent hospital should not provide services such as providing repeated information on the same topics” with a mean of 4.17 while the question with the lowest mean is “Excellent hospital should provide a service on exactly scheduled time” with a mean of 3.96. In addition, the majority of opinion level is fairly agreed.

For the responsiveness of services construct, the question with the highest mean is “Excellent hospital staff should be ready to serve upon a patient’s request” with a mean of 4.12 while the question with the lowest mean is “Excellent hospital staff should show a willingness to serve and care” with a mean of 4.03. In addition, the majority of opinion level is fairly agreed.

For the assurance of services construct, the question with the highest mean is “Excellent hospital staff should be polite, well-mannered and courtesy to patients” with a mean of 4.15 while the question with the lowest mean is “Effective hospital staff should ensure the clients of a confidence in the service” with a mean of 4.05. In addition, the majority of opinion level is fairly agreed.

For the empathy of services construct, there are two questions that has an equal scores, the first question with the highest score is “Excellent hospital should pay attention to the patient individually” whereas the highest second score is “Excellent hospital should have an understanding of the specific needs for patients”. Both of them with a mean score of 4.14 while the question of the lowest mean is “Excellent hospital should access to the patient’s feeling” with a mean of score 4.10. In addition the majority of opinion level is fairly agreed.

On the other hand, Phyathai 3 hospital, ranges of means is in 4.49 to 4.05. The question with the highest is “Excellent hospital should provide the standard service from the point which service begins”. The second highest are “Excellent hospital should manifest a readiness to serve and ready to solve the problem to the clients immediately” and “Excellent hospital staff should ensure the patient of a sense of security with the services provided by the hospital” with a mean of 4.49 and the lowest highest is “Excellent hospital should not provide services such as providing repeated information on the same topics” with a mean of 4.05.

For the tangibility of services construct, the question with the highest mean is “Effective hospital should be equipped with effective and gentle employees” with a mean of 4.47 while the question of the lowest is “Effective hospital should be beautiful and stable in the physical structure” with a mean of 4.24. In addition, the majority of opinion level is strongly agreed.

For the reliability of services construct, the question with the highest mean is “Excellent hospital should provide the standard service from the point which service begins” with a mean of 4.51 while the question of the lowest is “Excellent hospital should not provide services such as providing repeated information on the same topics” with a mean of 4.05. In addition, the majority of opinion level is strongly agreed.

For the responsiveness of services construct, the question with the highest mean is “Excellent hospital staff should show a willingness to serve and care” with a mean score of 4.47 while the question of lowest is “Excellent hospital staff should be ready to serve upon a patient’s request” with a mean score is 4.40. In addition, the majority of opinion level is strongly agreed.

For the assurance of services construct, the question with the highest mean is “Excellent hospital staff should ensure the patient of a sense of security with the services provided by the hospital” with a mean score is 4.49 while the question of lowest is “Effective hospital staff should ensure the clients of a confidence in the service” with a mean score is 4.42. In addition, the majority of opinion level is strongly agreed.

For the empathy of services construct, the question with the highest mean is “Excellent hospital should provide adequate staffs to take care of the patients.” with a mean score is 4.43 while the question of lowest is “Excellent hospital should pay attention to the patient individually” with a mean score is 4.30. In addition, the majority of opinion level is strongly agreed.

Table 2: Mean, Standard Deviation, and Opinion Level toward Services Obtained

Service Expectations	Banphaeo			Phyathai 3		
	Mean	S.D.	Opinion	Mean	S.D.	Opinion
Tangibility of Physical environment						
1. Excellent hospitals should be furnished with modern and high quality equipment	3.86	.791	Fairly agree	4.38	.708	Strongly agree
2. Effective hospitals should have an attractive architecture and a stable physical structure.	3.91	.688	Fairly agree	4.24	.760	Highly agree
3. Effective hospitals should be staffed with effective and gentle employees.	4.05	.684	Fairly agree	4.47	.714	Strongly agree
4. Excellent hospitals should provide utensils and equipment, such as leaflets.	4.13	.684	Fairly agree	4.27	.752	Strongly agree
Reliability of Service						
5. Excellent hospitals should provide information prior to service at every time.	4.01	.649	Fairly agree	4.46	.701	Strongly agree
6. Excellent hospitals should manifest a readiness to serve and solve problems of patients immediately.	3.99	.647	Fairly agree	4.49	.698	Strongly agree
7. Excellent hospitals should offer services beginning at the hospital entrance.	4.08	.683	Fairly agree	4.51	.690	Strongly agree
8. Excellent hospital should provide services on time as scheduled.	3.96	.685	Fairly agree	4.30	.739	Strongly agree
9. Excellent hospitals should provide the record of patient information correctly.	4.04	.676	Fairly agree	4.42	.737	Strongly agree

Table 2 (continued): Mean, Standard Deviation, and Opinion Level toward Services Obtained

Service Expectations	Banphaeo			Phyathai 3		
	Mean	S.D.	Opinion	Mean	S.D.	Opinion
10. Excellent hospitals should refrain from providing services excessively, such as providing information on the same topics repeatedly.	4.17	.690	Fairly agree	4.05	.959	Fairly agree
Responsiveness of Employee behavior						
11. Effective hospital staff should provide excellent service to patients as soon as the patient arrives at the hospital.	4.04	.673	Fairly agree	4.41	.728	Strongly agree
12. Excellent hospital staff should show a willingness to serve and care.	4.03	.667	Fairly agree	4.47	.737	Strongly agree
13. Excellent hospital staff should be ready to serve upon a patient's request.	4.12	.722	Fairly agree	4.40	.730	Strongly agree
Assurance of Employee behavior						
14. Effective hospital staff should ensure patients' confidence in the quality of service.	4.05	.672	Fairly agree	4.42	.745	Strongly agree
15. Excellent hospital staff should assure the patient of a sense of security with the services provided by the hospital.	4.08	.641	Fairly agree	4.49	.729	Strongly agree
16. Excellent hospital staff should be polite, well-mannered and show courtesy to patients.	4.15	.686	Fairly agree	4.46	.728	Strongly agree
17. Excellent hospital staff should be knowledgeable in answering patients' questions.	4.10	.674	Fairly agree	4.43	.749	Strongly agree
Empathy of Service						
18. Excellent hospitals should pay attention to the patient individually.	4.14	.664	Fairly agree	4.30	.864	Strongly agree

Table 2 (continued): Mean, Standard Deviation, and Opinion Level toward Services Obtained

Service Expectations	Banphaeo			Phyathai 3		
	Mean	S.D.	Opinion	Mean	S.D.	Opinion
19. Excellent hospitals should provide sufficient time for the patients.	4.13	.684	Fairly agree	4.38	.751	Strongly agree
20. Excellent hospitals should assign adequate staffs to take care of the patients.	4.12	.664	Fairly agree	4.43	.726	Strongly agree
21. Excellent hospitals should be attentive and respect patients' feelings	4.10	.672	Fairly agree	4.39	.725	Strongly agree
22. Excellent hospitals should have an understanding of the specific needs for patients.	4.14	.685	Fairly agree	4.33	.779	Strongly agree
Total	4.06	.68	Fairly agree	4.39	.75	Strongly agree

Next, Pearson product-moment correlation coefficients were used to explore the relationship among the independent variables of both Banphaeo and Phyathai 3 hospitals. The results are shown in tables 3 and 4.

Table 3: Correlation Coefficients of Independent Variables (Banphaeo Hospital)

Variables	Tangibility (Physical Environment)	Reliability (Service)	Responsiveness (Employee Behavior)	Assurance (Employee Behavior)	Empathy (Service)
Tangibility (Physical Environment)	1.00				
Reliability (Service)	0.51	1.00			
Responsiveness (Employee Behavior)	0.33	0.51	1.00		
Assurance (Employee Behavior)	0.36	0.57	0.54	1.00	
Empathy (Service)	0.34	0.45	0.34	0.49	1.00

Table 3 shows the correlation matrix of independent variables in Banphaeo Hospital. All of the variables (Service, Employee Behavior, Physical Environment) were moderately positively correlated with each other. This indicates that there was no problem with regards to multi-collinearity for the multiple regression analysis.

Table 4 Correlation Coefficients of Independent Variables (Phyathai 3 Hospital)

Variables	Tangibility (Physical Environment)	Reliability (Service)	Responsiveness (Employee Behavior)	Assurance (Employee Behavior)	Empathy (Service)
Tangibility (Physical Environment)	1.00				
Reliability (Service)	0.51	1.00			
Responsiveness (Employee Behavior)	0.33	0.51	1.00		
Assurance (Employee Behavior)	0.36	0.57	0.54	1.00	
Empathy (Service)	0.34	0.45	0.34	0.49	1.00

Table 4 reports the correlation coefficients of the independent variables in Phyathai 3 Hospital. All variables (Service, Employee Behavior, Physical Environment) are positively correlated with each other. This indicates that the statistical model is likely to be affected by multi-collinearity problem. In order to avoid such statistical problem, this study analyzes the effect of these variables in 5 models.

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Table 5 reports the correlation matrix of the independent variables including control variables (gender, age, educational level, income level, and marital status) of interest for Banphaeo hospital. The findings are detailed as follows.

Table 5 Effect of Independent Variables (Banphaeo Hospital)

Independent Variables	Model 1 (Dependent Variable = Hospital Infrastructure)	Model 2 (Dependent Variable = Service ability)	Model 3 (Dependent Variable = Willingness to Care to Patients)	Model 4 (Dependent Variable = Knowledge and else)	Model 5 (Dependent Variable = Close Care)
Tangibility (Physical Environment)	0.12* (0.06)				
Reliability (Service)		0.29*** (0.07)			
Responsiveness (Employee Behavior)			0.17*** (0.06)		
Assurance (Employee Behavior)				0.34*** (0.07)	
Empathy (Service)					0.16** (0.07)

Table 5 (continued): Effect of Independent Variables (Banphaeo Hospital)

Independent Variables	Model 1 (Dependent Variable = Hospital Infrastructure)	Model 2 (Dependent Variable = Service ability)	Model 3 (Dependent Variable = Willingness to Care to Patients)	Model 4 (Dependent Variable = Knowledge and else)	Model 5 (Dependent Variable = Close Care)
Gender	0.11 (0.07)	0.17** (0.07)	0.15** (0.07)	0.10 (0.07)	0.10 (0.07)
Age	-0.02 (0.03)	0.02 (0.03)	-0.01 (0.03)	-0.03 (0.02)	0.01 (0.03)
Educational Level	-0.01 (0.03)	0.02 (0.03)	-0.01 (0.03)	0.01 (0.03)	0.02 (0.03)
Income Level	-0.11** (0.05)	-0.04 (0.06)	0.02 (0.03)	-0.11** (0.04)	-0.18*** (0.04)
Marital Status	0.07** (0.03)	-0.10** (0.04)	0.10** (0.04)	0.10*** (0.04)	0.02 (0.04)
Constant	4.16*** (0.31)	3.04*** (0.33)	3.63*** (0.33)	3.05*** (0.34)	3.93*** (0.34)
N	330	330	328	330	328
R ²	0.06	0.13	0.08	0.14	0.08
Adjusted R ²	0.04	0.11	0.07	0.11	0.06
F-Statistics	3.21***	8.30***	5.15***	9.33***	4.70***
VIF	1.50	1.48	1.48	1.47	1.46

Note: * p < 0.10, ** p < 0.05, *** p < 0.01.

Table 5 reports the effects of service, employee behavior, and physical environment on patient satisfaction. The table shows that all three independent variables, service, employee behavior, and physical environment, had a positive and significant effect on patient satisfaction in Banphaeo Hospital, as expected.

Service had a positive and significant effect on patient satisfaction in Banphaeo Hospital, as expected, with a 0.29 and 0.16 unit increase in patient satisfaction $p < 0.01$ and $p < 0.05$. Similarly, when including service with the control variables, it found that the service models 2 and 5 had an effect on patient satisfaction in Banphaeo Hospital $p < 0.01$ and $p < 0.05$.

Employee behavior also showed the expected positive and significant effect on patient satisfaction in Banphaeo Hospital. Employee behavior was positively associated with a 0.17 and 0.34 unit increase in patient satisfaction; both of them had $p < 0.01$. And, when including employee behavior with the control variables, it found that the employee behavior models 3 and 4 still had a positive effect on patient satisfaction in Banphaeo Hospital $p < 0.01$.

Meanwhile, physical environment had a positive and significant effect on patient satisfaction in Banphaeo Hospital with a 0.12 unit increase in patient satisfaction, it had $p < 0.10$. When including physical environment with the control variables, it has been found that the physical environment model 1 still showed a positive effect on patient satisfaction in Banphaeo Hospital ($p < 0.01$).

In analogy to the above findings, table 6 reports on the correlation matrices of the independent variables including control variables (gender, age, educational level, income level, and marital status) of interest for Phyathai 3 Hospital.

Table 6 Effect of Independent Variables: (Phyathai 3 Hospital)

Independent Variables	Model 1 (Dependent Variable = Hospital Infrastructure)	Model 2 (Dependent Variable = Service ability)	Model 3 (Dependent Variable = Willingness to Care to Patients)	Model 4 (Dependent Variable = Knowledge and else)	Model 5 (Dependent Variable = Close Care)
Tangibility (Physical Environment)	0.53*** (0.06)				
Reliability (Service)		0.67*** (0.05)			
Responsiveness (Employee Behavior)			0.64*** (0.05)		
Assurance (Employee Behavior)				0.61*** (0.05)	
Empathy (Service)					0.53*** (0.06)
Gender	0.18** (0.08)	0.09 (0.07)	0.15* (0.08)	0.00 (0.07)	-0.00 (0.09)
Age	0.08** (0.04)	0.04 (0.03)	0.03 (0.03)	0.08** (0.03)	0.05 (0.03)
Educational Level	0.01 (0.03)	0.02 (0.03)	-0.01 (0.03)	0.02 (0.03)	-0.01 (0.03)
Income Level	0.04 (0.07)	-0.04 (0.06)	0.12* (0.06)	0.01 (0.06)	0.04 (0.08)
Marital Status	-0.04 (0.04)	-0.01 (0.03)	-0.03 (0.03)	-0.04 (0.03)	-0.05 (0.04)
Constant	1.67 (0.37)	1.30*** (0.32)	1.34*** (0.33)	1.57*** (0.32)	2.12*** (0.38)
N	277	278	276	278	278
R ²	0.25	0.39	0.38	0.37	0.23
Adjusted R ²	0.23	0.37	0.37	0.35	0.21
F-Statistics	15.08***	29.08***	27.44***	26.65***	13.43***
VIF	1.17	1.17	1.17	1.17	1.17

Note: * p < 0.10, ** p < 0.05, *** p < 0.01

Table 6 shows that the three independent variables, service, employee behavior, and physical environment had a positive and significant effect on patient satisfaction in Phyathai 3 hospital, as expected.

Service itself had a positive and significant effect on patient satisfaction in Phyathai 3 Hospital, as expected, with a 0.67 and 0.53 unit increase in patient satisfaction (p < 0.01) and (p < 0.01). Controlling for gender, age, educational lev-

el, income, marital status, service models 2 and 5 had maintained its effect on patient satisfaction in Phyathai 3 Hospital with $p < 0.01$ and $p < 0.01$ respectively.

Employee behavior had a positive and significant effect on patient satisfaction in Phyathai 3 Hospital, as expected with a 0.64 and 0.61 unit increase in patient satisfaction, both of them had a significance level of $p < 0.01$. When including employee behavior with the control variables models 3 and 4 still showed a positive effect on patient satisfaction in Phyathai 3 Hospital ($p < 0.01$).

Physical environment had a positive and significant effect on patient satisfaction in Phyathai 3 Hospital with a 0.53 unit increase in patient satisfaction, albeit at a significance level of only $p < 0.10$. When including control variables, physical environment model 1 showed a positive effect on patient satisfaction in Phyathai 3 Hospital at $p < 0.01$.

Discussions

This paper has examined two questions: 1) the satisfaction of patients and the factors influencing satisfaction both at Thai public and private hospitals and 2) which ones of factors are the most important drivers of patient satisfaction in Thailand setting by using a survey data collected in Samut Sakhon province and Bangkok.

It was found that the respondents at both hospitals; Banphaeo Hospital and Phyathai 3 Hospital reported a considerable satisfaction with the services provided by the hospitals. This satisfaction can be related to five dimensions of service quality.

1) Tangibility of physical environment

In respect of the tangibility, the results showed that the factor that affected the satisfaction of patients at Banphaeo Hospital mostly included the need for hospital should provide utensils and equipment, such as leaflet with clear and accurate information about the hospital while the satisfaction of patients of Phyathai 3 Hospital, the factor that affected the satisfaction of patient mostly related to effective and gentle employees.

It is that at public hospital, the patients needed for information by leaflets about the services they would receive. At present, it is found that there are a lot of patients admitted in the public hospital and the staffs have insufficient time to provide information to patients. For that reason, in order to offer high service

quality effectively, companies ought to focus on providing effective equipment which high quality for proposing important information to patients. Meanwhile, at the private hospital, the patients demanded for the personnel and staffs who are gentle and benign to increase facilities and increase convenience. In addition with these results, Shostack (1977) and Jones (1978) have both emphasized the importance of tangibility for service quality and noted that service not only depends on people, but also the physical service setting.

2) Reliability of service

In respect of the reliability, the results showed that the factor that affected the satisfaction of patients of Banphaeo hospital mostly included that patients did not need for the repeated information provided by the hospital while the satisfaction of patients of Phyathai 3 Hospital, the factor that affected the satisfaction of patients mostly included effective service from the starting point of service. Yasin and Yavas (2001) proposed that front-stage service includes all operational activities and tasks in which direct interaction with patients takes place. An example may be the responsible and correct treatment and recollection of patients' treatment history.

It was obvious that, even-though customers from Banphaeo Hospital had an understanding of the condition and the great number of patients each day, the examination was not punctual consequently but the organization should reconsider for providing more staffs to enhance service improvement. At Phyathai 3 Hospital on the other hand, customers gave importance to receiving effective service right away from the starting point due to the private hospital charging higher fees than public hospitals. So customers expected the best service from the hospital without delay.

3) Responsiveness of employee behavior

With regard to responsiveness, the factor that affected the satisfaction of patients at Banphaeo Hospital most was the need for a prompt response from hospital staffs. Service staff also need tactics pertaining to interactive skills which can be heavily intertwined along with technical skills that ensure those to provide "courteous, nurturing, responsive as well as empathetic service" (Wilson et al., 2008). Patients of Phyathai 3 Hospital emphasized hospital staff's willingness to render the service and a caring attitude.

At public hospitals, there are a lot of patients and a prompt response is sometimes somewhat difficult owing to the fact that there is a lack of qualified medical and nursing personnel. Meanwhile, at Phyathai 3 Hospital, showing a willingness to serve and care is identified important and should be promoted and trained as organizational culture.

4) Assurance of employee behavior

With regards to assurance of employee behavior, the factor that affected the satisfaction of patients at Banphaeo Hospital most was the need for employees to be courteous. Patient responses from Phyathai 3 Hospital showed that the factor that affected patient satisfaction most was a sense of security in the services received. In this regard it is important to identify patients and their symptoms and treatment needs, as well as their medical history and take proper precautions throughout all contact with the patient (Horovitz & Cudenne-Poon ,1990).

In practice this can be a challenge because large number of patients serviced each day and a lack of personnel leave staff short on time, which often results in errors that undermine the patients' trust and confidence in the quality of service. So, hospitals should carry out a competency improvements in both core competency, managerial competency, and functional competency to improve the confidence of patients.

5) Empathy of service

In terms of empathy, the factor that affected patient satisfaction at Banphaeo Hospital most was the need for an individualized attention and the understanding of the service, while at Phyathai 3 Hospital, patients were more concerned with an adequate number of personnel and staff to serve the patients.

Wilson et. al. (2008) state that to produce a customer-oriented, service-minded personnel, companies must hire the best people.

Hospitals need to be more attentive to patients and understand of the specific care needs within the increased complexity of the illnesses-causing diseases today. Team work is geared towards helping organizations handle inside problems through allowing associates to review and solve the problems (Betty Conti & John H. Kleiner, 1997), in which care, attention and patience is needed to understand each step specifically while at the private hospital, the patients need

to have enough staff to render the service. So, the hospital should be staffed systematically to accommodate the large number of patients who use the service. It is currently found that some patients turn to a private hospital for treatment for they do not want to wait for too long.

Patients at both hospitals were generally satisfied with the health care services rendered.

Patients at public hospitals expect a more effective and improved service in various areas. Meanwhile, at private hospitals, service performance is a more important factor that draws patients' attention to receiving a continuously effective service.

Regarding to research question 2, "Which factors are the drivers of patient satisfaction in Thai hospitals?", the findings on factors that are important driver to build the patient satisfaction can be divided as follows:

The hospitality factors, service, employee behavior, and physical environment, all had a positive and significant effect on patient satisfaction in both Banphaeo and Phyathai 3 Hospital.

When including control variables (gender, age, educational level, income level, and marital status) in the models of analysis, service, employee behavior, and physical environment had a greater effect on patient satisfaction in both Banphaeo and Phyathai 3 Hospital. It can thus be said that service, employee behavior, and physical environment are important tools for the improvement of patient satisfaction in both Banphaeo and Phyathai 3 hospitals.

Comparing between Banphaeo and Phyathai 3 hospitals, the result showed that employee behavior (assurance) is the most important factor of patient satisfaction on Banphaeo Hospital, meanwhile service (reliability) is the most important driver of satisfaction at Phyathai 3 Hospital.

This study highlights the need for paying special attention to the feeling of patients to see service quality from a perspective of hospitality in the hospital as well. The patients from both public and private hospitals have the same opinion that service quality depends on sufficient staff to provide services promptly. This requires effective training to be performed in the hospital, because patients are provided services by personnel and staff and need to feel a sense of security in the services received. So, training systems should be reconsidered for improving

staff education. Moreover, staff behavior should be emphasized to provide willingness, courtesy, responsiveness as well as empathetic service.

In summary, this study suggests that hospitality services related organizational leadership and policy should be considered for improving quality and increasing patient satisfaction accordingly. So, further investigations using qualitative studies or longitudinal studies would be helpful in order to identify the factors of patient satisfaction accurately.

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