Available online at www.jeeir.com
JEEIR

Journal of Emerging Economies and Islamic Research

www.jeeir.com

Service Quality and Its Impact on Patient Satisfaction: An Investigation in Vietnamese Public Hospitals

Nguyen Thanh Cong[a], Nguyen Thi Tuyet Mai[b,*]

[a]*Healthcare Department, Hai Duong, Vietnam*
[b]*National Economics University, Hanoi, Vietnam*

Abstract

This study explores the relationship between service quality and patient satisfaction in the context of the public hospitals in Vietnam, an emerging economy in Asia. Both qualitative and quantitative methods were used in this investigation. To test the hypothesized relationships, a large survey data were collected and multiple regression analyses were performed. The results provided empirical evidence for the impact of three dimensions of service quality ('tangibles', 'accessibility to healthcare services', and 'attitude and medical ethics') on patient satisfaction. Discussion of the research findings is presented. Implications for hospital management and policy makers, and future research directions are also provided.

Keywords: Service quality; patient satisfaction; public hospitals; emerging economy.

1. Introduction

Service industry has played increasingly important role in the economy. In emerging countries, it has become one of the fastest growing sectors (Zaim et al., 2010). Service quality, accordingly, has attracted much investigation by both academics and practitioners (e.g., Ladhari, 2008; Narayan et al., 2008; Prabha et al., 2010).

The relationship between service quality and customer satisfaction has been extensively examined in the literature, in both developed countries (Carman, 2000; Scotti et al., 2007) and developing countries (Nguyen M. Tuan, 2012; Zaim et al., 2010). In healthcare service industry, the service quality –

* Corresponding author. Tel.: 84-913-500-898.
E-mail address: tuyetmaisdh@neu.edu.vn

satisfaction relationship has received significant research attention (e.g., Choi et al., 2005; Nana et al., 2010; Zaim et al., 2010).

Vietnam is an emerging economy in Asia which is undergoing significant changes. Vietnam began its economic renovation in 1986, moving the economy from a centrally planned to a market one. Due to the socialization of healthcare, in addition to the dominant sector of public hospitals, there has been growing number of private hospitals in Vietnam over the past years. Many public hospitals, instead of paying attention to providing good services, now pay more attention to maintaining targeted revenues through various ways such as earning money from outpatients and unnecessary services (Minh Hung, 2011).

Over the past years, the hospital system in Vietnam has been significantly improved and developed. Much investment has been put in developing healthcare infrastructure, facilities, and human resource training. However, service quality in the healthcare system in general and in the public hospitals particularly have still received much concern from the society and pressingly requires for improving patients' satisfaction (Phung and Tran, 2012). Every year, many Vietnamese patients, especially the wealthier people spend as much as US$ 2billion on treatment abroad. These patients with better living standards seek for better service quality abroad because they do not only care about having their diseases cured, but also about how they are treated (Thanh Nien Daily, 2013).

This study focuses on providing empirical evidence to confirm the relationship between service quality and patient satisfaction in the context of the public hospitals in Vietnam. The similarities and unique characteristics associated with the research context are explored. It is expected to enrich our understanding of healthcare service quality and its relationship with patient satisfaction in an emerging economy where the research topic has still received modest attention. In the following sections, we first provide theoretical background and hypotheses. Next, research methodology is presented, followed by research results, and finally discussion and implications.

2. Theoretical background and hypotheses

2.1. Service quality in healthcare service sector and its measures

In literature, there are various definitions of service quality in general and the healthcare service quality in particular. Zeithaml (1988) defined service quality as the evaluation of the customer on the results of the service provided to them. According to Parasuraman et al. (1985, 1988), consumers evaluate service quality by comparing their expectation of service to be received with their perceptions of actually received service. However, it has been suggested in literature that service quality may be more accurately assessed by measuring only consumer perceptions of service quality (cf., Ladhari, 2008).

The perception of service quality is considered as an attitude that involves combining perceptions to form an overall attitude regarding quality. Service quality is a complicated and multi-dimensional construct. According to Schmnner (1986), there were six most critical service quality dimensions including tangibles (e.g. physical facilities, equipment, and appearance of personnel), responsiveness (i.e. willingness of employees or professionals to provide service), recovery (i.e. the degree to which service providers actively take corrective action when something goes wrong or unexpected things happen), knowledge (i.e. knowledge, skills, and competence of service providers), accessibility (i.e. how easy to reach the service providers and access services which relate to such issues as location, opening hours, car

parking, etc.), and flexibility (i.e. ability to adjust operating systems and practices to deal with emergencies).

The literature in healthcare sector has examined the 'process' and the 'outcome' attributes of the service quality (cf., Carman, 2000). Past research has also suggested two sets of attributes of service quality including the technical attributes such as outcome (i.e. the patient can be free of the disease and pain), physician care and nursing care, and the affective attributes or functional attributes (Grönroos, 1990) such as food, room temperature, and parking. However, it has been also noted that many previous studies in healthcare sector adopted process approach since it may not be easy and proper for patients to assess the medical service outcome (cf. Choi et al., 2005).

With regard to measuring service quality, the well-known SERVQUAL scale developed by Parasuraman et al. (1985, 1988) has been widely used in various service sectors. The original SERVQUAL scale comprised of ten determinant service factors and later it has been reduced to five dimensions. These dimensions include 1) tangibles (the appearance of physical facilities, equipment, and personnel), 2) reliability (the ability to perform the promised service dependable and accurately), 3) responsiveness (the willingness to help customers and provide prompt service), 4) empathy (the provision of individual care and attention to customers), and 5) assurance (the knowledge and courtesy of employees and their ability to inspire trust and confidence). The scale consists of 22 items across the five dimensions, and each item is used to measure the customer expectation and the customer perception of service provided. Gap score (i.e. the difference between perception-of-performance score and expectation score) is calculated to measure service quality.

Although SERVQUAL has been widely applied in previous studies, this measure of service quality has been criticized when applying across different types of services and in various socio-cultural and/or economic contexts (Carman, 1990, Llosa et al., 1998; see Prabha et al., 2010 also). Past research in different service sectors have demonstrated an attempt to develop the scales measuring service quality in each specific context. For instant, in education the EDUSERV instrument was developed to measure service quality in a secondary education environment (see Prabha et al., 2010). In many healthcare studies, SERVQUAL scale has been adapted and modified (e.g., Babakus and Mangold, 1992; Chahal and Kumari, 2010; Choi et al., 2005; Nana et al., 2010). Chahal and Kumari (2010) developed and tested the multidimensional scale measuring healthcare service quality in Indian context. They suggested several dimensions of service quality including physical environment quality, interaction quality, and outcome quality. In the context of healthcare sector in Korea, Choi et al. (2005) developed the scale measuring service quality based on conducting qualitative study and modifying SERVQUAL items (Parasuraman et al., 1998). They finally came up with the scale of 19 items measuring four dimensions of service quality: convenience of the care process, physician concern, staff concern, and tangibles.

In this study, service quality is evaluated through patients' perceptions. Our qualitative findings, similar to those from the study by Choi et al. (2005) in the context of Korean healthcare system, suggest that in the public hospitals environment Vietnamese patients are mainly concerned with how the medical services are provided. Specifically, three main dimensions of service quality have emerged including 'tangibles', 'accessibility to healthcare services', and 'attitude and medical ethics'. These dimensions are discussed subsequently.

2.2. Patient satisfaction and its relationship with service quality

In marketing, consumer satisfaction is very important that can bring about better firm performance. The construct of consumer satisfaction refers to consumers' fulfillment response or emotional feelings about a specific consumption experience (Oliver, 1997, cf. Choi et al., 2005). It has been noted that while perceived service quality is a cognitive construct, consumer satisfaction is an affective one, and this suggests a causal relationship between these two constructs, in which service quality plays the role of an antecedent of consumer satisfaction (Choi et al., 2005).

The impact of service quality perceptions on consumer satisfaction has been extensively investigated in literature. In healthcare sector, empirical evidence has also been found to support the perceived service quality – patient satisfaction relationship (Scotti et al., 2007). In this study, we expected to see significant impact of perceived service quality dimensions on Vietnamese patient satisfaction with healthcare services provided. Accordingly, we propose the following hypotheses:

H1: 'Tangibles' is positively related to patient satisfaction.
H2: 'Accessibility to healthcare services' is positively related to patient satisfaction.
H3: 'Attitude and ethics' is positively related to patient satisfaction.

3. Research methodology

Both qualitative and quantitative methods were employed in this study. Before conducting a survey to test the proposed relationships between healthcare service quality components and patient satisfaction, a preliminary qualitative study was conducted through in-depth interviews with 30 patients in public hospitals in the North of Vietnam. The main objectives of the qualitative study are to gain overall understanding of patient perceptions of the current status of healthcare service quality in Vietnamese public hospitals. The study also explored the patients' concerns when they came to assess the quality in the hospitals. On this basis, some additional scale items were developed and some items from the established scales were modified for use in our survey.

In order to test the hypothesized relationships we employed the survey data collected from 18 public hospitals in the North of Vietnam. In the following section, we discuss the measures used in this study, the questionnaire development, the sample, and the techniques used for data analysis.

3.1. Measures

In our survey, we employed the scales measuring healthcare service quality and patient satisfaction. These measures were adopted and modified from past research while taking into account the suggestions from our qualitative study.

Service quality

The findings from the qualitative study strongly suggest three salient dimensions of service quality that Vietnamese patients are concerned when they come to the public hospitals for healthcare services. These dimensions include 1) Tangibles (e.g., physical care facilities, medical equipment and hospital physical environment and surroundings), 2) accessibility to healthcare services (e.g., procedures of admission to the hospital, waiting time, examination order, explanation about the examination results and treatment process, etc.), and 3) attitude and medical ethics (e.g., doctors' and medical staff's care and attitude towards patients during admission procedures, examination and treatment, and the medical personnel's morality in interaction with patients).

Some items measuring patients' perception of healthcare service quality were newly developed and some were adapted from previous studies such as from Choi et al. (2005) and Nana et al. (2010). The final items measuring three dimensions of healthcare service quality include 20 items of which 07 items measure dimension of tangibles, 06 items measure dimension of the accessibility to healthcare services, and 07 items measure dimension of attitude and ethics of medical personnel. These items are presented in appendix. A 5-point Likert scale ranging from *strongly disagree* to *strongly agree* was used to record patients' responses.

Patient satisfaction

In this study, respondents were asked to indicate their level of agreement with the statement "Overall I am satisfied with the quality of healthcare services in the hospital". This one-item scale measuring global satisfaction is adapted from Scotti et al. (2007). A 5-point Likert scale ranging from *strongly disagree* to *strongly agree* was used to record responses. Although a multiple-item measure would often be desirable, the literature has suggested that employing single-item measures of global satisfaction (cf. Scotti et al., 2007).

The questionnaire used in our study consists of two main parts of which the first part is about personal information of the patient, and the second part includes questions about the patient's perceptions of healthcare service quality and his/her satisfaction with the healthcare services in the hospital. A pre-test was conducted on a small convenience sample for checking the meaning and clarity of the questions. Necessary changes were made to the questionnaire before starting data collection in the hospitals.

3.2. Sample, data collection and data analysis

A large-scale patient survey was conducted in 18 public hospitals in the North of Vietnam. Our final sample comprised 894 in-door patients. The sample included slightly more female (50.8%) than male (49.2%). Most respondents were married (85.2%). The sample covered the wide range of ages from 16 to 85, with an average age of 42.1 years old. The respondents held different levels of education with majority at school level. Generally, our respondents earned relatively low monthly income of US$100 and less. Most of them held health insurance (82.2%).

A trained data-collection team of 15 people went to the selected hospitals to conduct face-to-face interviews with the patients. In most cases the interviewers asked questions and filled in the questionnaire. Necessary explanations were provided to the respondents during the interviews. Each interview took about 15 to 20 minutes.

In order to test the proposed hypotheses, we ran multiple regression analyses using patient satisfaction as dependent variable. The independent variables were the three dimensions of service quality (i.e. tangibles, accessibility to healthcare services, and attitude and ethics). Before testing the hypothesized relationships with the survey data, we performed exploratory factor analyses (EFA) and assessed the internal reliability of the scales used in the survey

4. Results

4.1. Qualitative findings

Before conducting the patient survey in public hospitals, the preliminary qualitative study was conducted through 30 in-depth interviews with patients. The findings provide an insight of the current status of healthcare service quality in public hospitals in Vietnam. Three themes have emerged across the interviews pertaining to three dimensions of healthcare service quality.

Hospital facilities, medical equipment, and hospital physical environment

The findings from our interviews show that the various elements of tangibles associated with healthcare service quality in Vietnamese public hospitals, especially those at district and lower levels are at not good status and there is a strong need for improvement. The issues such as poor facilities, inadequacy of patient beds, lack of medical equipment, dirty toilet and shortage of water have been frequently reported.

> Emergency rooms in this hospital [a hospital at district level] should be better equipped. Private clinics now are well equipped with all necessary equipment, while here there is still a very old machine that has been used for many years. (male patient, 30)

> …The room is not comfortable and not warm enough. There are even not enough blankets. The mat is old and with foul smell. There are even old blood marks on it. It is very uncomfortable. I do not dare to use them. (female patient, 25).

> The toilets here are very uncomfortable, very unhygienic. It has very bad smell and also there is often a shortage of water at the end of the day. (male patient, 35).

> There is no canteen in this hospital. I have to go and buy food outside. It is expensive and not convenient at all. (female patient, 40)

Accessibility to healthcare services

Some patients from our interview sample complained about unclear procedures of getting admission to the hospital, long waiting time for examination and treatment due to patient overload in many public hospitals, especially in big and well-known hospitals at the central level. Our qualitative findings also suggest that many medical staff do not provide clear guidance to patients and their families when they are at the hospital. In many cases, patients are also not easy to access adequately explanation about the examination results and treatment from the doctors. The following excerpts provide some illustration for our interviewees' concerns.

When I went to the hospital I had to wait over 20 minutes to register for examination. There were so many people but only one medical doctor was there. (male patient, 35)

During my stay in hospital and until I discharged from the hospital, the doctors did not give any instructions on how to prevent illness. (female patients, 55)

Attitude and medical ethics of hospital personnel

In our qualitative study, many patients expressed their great concerns about the attitude of some medical staff and doctors. In the context of healthcare services, it seemed more painful for patients and their families to suffer bad attitude of medical personnel expressed by impolite and bad words, cold faces and ignorance. Some of our interviewees expressed their experience in the hospital as follows.

During my 20 days of treatment at the hospital I find that the doctors have treated relatively well, but there are a number of nurses who are not friendly, often grumpy. They use impolite ways to respond, even when we ask them, they just ddon't answer...(male patient, 62)

"When I am in the hospital [a hospital at provincial level], I must try to endure my pain and do not dare to complain anything about the difficulties. If not [doing so] they [the doctors and nurses] will hate me." (female patient, 40)

Our interviewees also expressed their concerns about unfair treatment in hospitals due to ethical problems of a number of doctors and medical staff. The common phenomenon of receiving envelops and non-transparent amount of money (i.e. bribery) among medical staff has been noted with big concerns, especially for poor patients.

4.2. Survey findings

Measurement properties

The multiple-item scale measuring service quality was first subjected to EFA (PCA using Varimax rotation with a criterion of eigenvalue greater than 1.0) to test the construct' underlying dimensions and to look for a more parsimonious set of variables for subsequent analysis. The reliability was assessed using Cronbach coefficient alpha. The results are presented as follows.

In this study, the scale measuring service quality included twenty items with three subscales measuring three dimensions of service quality. Exploratory factor analysis (EFA) was run on all the 20 items. Three factors were extracted as expected. However, after checking item-total-correlations, three items were dropped one by one due to low item-total-correlations and low squared multiple correlations (< .20). Therefore, seventeen items remained and three factors emerged as expected. The three-factor solution explained 62.7% of the total variance of which Factor 1 (attitudes and medical ethics) items accounted for 24.3%, Factor 2 (accessibility to healthcare services) items accounted for 23.9%, and Factor 3 (tangibles or facilities, medical equipment and hospital environment) items accounted for 14.5%. The coefficient alpha was .92. The factor loadings ranged from .41 to .79. The results of the factor analysis on the seventeen items are presented in Table 1.

Table 1. Factor loadings for service quality subscale items (n = 894)

Scale Items	Factor 1	Factor 2	Factor 3
Attitude and medical ethics (alpha =.90)			
Medical staff show good attitude when receiving patients	.65		
Doctors are courteous and polite when examining patients	.72		
Doctors show good care when treating patients	.73		
Medical staff is courteous when guiding patients taking drug	.75		
Doctors are courteous when providing health advice to patients	.75		
Medical staff shows good care when guiding patients about discharge process	.74		
Accessibility to healthcare services (alpha =.91)			
The procedures of getting admission to the hospital are clear and simple		.76	
Medical staff provides clear guidance when being at the hospital		.77	
Waiting time for examination and treatment is too long (r)		.79	
Examination order is confused (r)		.72	
Doctors clearly and adequately explain the examination results and treatment process		.71	
Doctors' examination and treatment time is not adequate (r)		.64	
Tangibles (alpha =.71)			
The quality of the hospital's care facilities is good			.41
The quality of the patient beds is good			.51
Water and bathrooms in the hospital are in good status			.61
The hospital toilets are clean			.79
The hospital environment is good (trees, canteen, etc.)			.70

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaser Normalization.

In this study, we tested the effects of the three components of service quality on patient satisfaction separately. In other words, the hypotheses were tested at the subscale level. Thus, the coefficient alpha was also calculated for each subscale: alpha was .71, .91, and .90 for the 'tangibles', 'accessibility to healthcare services', and 'attitude and medical ethics' subscales, respectively.

Results of hypothesis testing

Table 2 presents the descriptive statistics and correlations between three dimensions of service quality and patient satisfaction. All the three dimensions of service quality, as expected, were significantly correlated with patient satisfaction in the predicted direction ($p < .01$). The mean scores indicate that the current status of service quality at public hospitals in Vietnam seem to be acceptable (around average level) for the patients. Among three service quality's dimensions, tangibles score is the lowest (mean = 3.43), followed by attitudes and medical ethics (mean = 3.58). Accessibility to healthcare services achieves the highest score (mean = 3.74) but it is still less than 4 (good level). The patient satisfaction level is also a bit higher average level (mean = 3.68). This will be discussed subsequently.

Table 2. Descriptive statistics and correlations

	Mean	S.D.	1	2	3	4
1. Tangibles	3.43	.62	1			
2. Attitudes and medical ethics	3.58	.76	.61**	1		
3. Accessibility to healthcare services	3.74	.64	.61**	.71**	1	
4. Patient satisfaction	3.68	.80	53**	.55**	.47**	1

** $p < .01$

Table 3. Regression results (n = 894)

Independent variables	Standardized coefficients	T - value	Sig.
Service quality			
1. Facilities, medical equipment and hospital environment	.273	7.57	P < .01
2. Accessibility to healthcare services	.132	3.19	P < .01
3. Attitudes and medical ethics	.270	6.62	P < .01
	F = 149.91	P < .01	
	Adj. R^2 = .34		

Dependent variable: Patient satisfaction

The regression results are presented in Table 3. The results of multiple regression analysis with patient satisfaction as dependent variable showed that Vietnamese patients' satisfaction was explained significantly by all three components of healthcare service quality. The regression model was found to be significant ($F = 149.91$, $p < .01$), accounting for 34% of the variance in the data. Specifically, the regression results confirmed the significant impact of tangibles, access to healthcare services, and attitude and ethics on patient satisfaction: $\beta = .27$, $p < .01$; $\beta = .13$, $p < .01$; and $\beta = .27$, $p < .01$, respectively. Therefore, all three hypotheses got support from the data.

5. Discussion

This study focused on investigating the relationship between service quality and patient satisfaction in the context of the public hospitals in Vietnam, an emerging economy in South-East Asia. The results of our research, in line with the findings from previous studies, confirmed the impact of healthcare service quality on Vietnamese patient satisfaction, lending support to all the hypothesized relationships.

In this study, among the three service quality dimensions, the dimension 'tangibles' was found to have strongest influence on the Vietnamese patient satisfaction, closely followed by 'attitude and medical ethics', and finally by 'accessibility to healthcare services'. These findings suggest the importance of tangible elements such as facilities, medical equipment and physical hospital environment as patients' satisfaction predictors. This study also provides empirical evidence for the strong impact of attitude and ethics of medical staff and doctors on patient satisfaction. These two factors seem to be more salient in the context of healthcare services where it is not easy to assess the technical outcomes of the services. Also, this may reflect the current status of service quality in the public hospitals in emerging economies like Vietnam, where the investment in hospital facilities and physical environment is quite modest and medical morality is still considered a big concern in society.

The findings from both our qualitative and quantitative research suggest that although there have been many complaints and much concern from the patients when coming to the public hospitals, the degree of satisfaction and the perceptions of all the three dimensions of service quality in the public hospitals seem to be at acceptable level (around the average score). This may be partly explained by our research sample of all in-door patients who may cope with some hesitance when expressing their thoughts and evaluation. Further study on this topic may be desirable to confirm the results.

Implications

The research findings from this study contribute to better understanding of the service quality dimensions and their impact on patient satisfaction in the context of the public hospitals in an emerging economy of Vietnam. This research is meaningful since the ability to deliver quality services and provide patient satisfaction, especially in the public units in developing countries like Vietnam is limited (Chahal and Kumari, 2010).

Several managerial implications are offered to the public hospital administrators to improve hospital management and quality control systems of healthcare services. To deliver high quality of healthcare services and by doing so to enhance patient satisfaction, it is important to introduce modern managerial practices in the hospital with customer orientation.

The service quality in the hospital can be enhanced through various action programs pertaining to improving all the quality dimensions of healthcare services. For instance, it is necessary for the hospital managers to pay attention to the elements of hospital tangibles and be innovative in attracting and calling for investment to upgrade the hospital facilities, equipment and hospital environment. It is also very important to promote good spirit, medical ethics and attitude of medical staff and doctors towards patients, as well as to develop better and transparent hospital culture, and provide training medical staff and physicians on ethics, communication, and skills/specialization.

This study is also expected to provide implications for policy makers in an attempt to develop relevant strategies to improve the current status of healthcare service quality at the public hospitals and enhance patient satisfaction. There is a strong need to renew policies on hospital management and investment for public hospitals. Innovative investment policies for public hospitals should receive great attention to upgrade facilities, medical equipment and develop better hospital environment. Policy makers should spend significant effort to develop effective policies to attract investors to build high-quality hospitals so that wealthier patients may want to use healthcare services in local hospitals instead of going and spending for medical services abroad.

The human resource is also a major challenge for public hospitals, especially at district level. The shortage of doctors and the problem of brain drain at public hospitals should be addressed. To deliver better quality of services and to improve patient satisfaction, it is necessary to create a healthy competition between public and private hospitals. Along with improving the service quality at the public hospitals, the development of the private hospital system should also be encouraged.

Future Research Directions

This study has achieved a certain success in examining the important relationship between healthcare service quality and patient satisfaction in a relatively new research context of public hospitals in Vietnam, an Asian emerging economy. The current research, however, presents some limitations that future studies could address, and also suggests several areas in which this research could be further extended.

First, this study used the sample of patients in 18 public hospitals in the North of Vietnam. A study using a more representative sample including hospitals in other parts of Vietnam (in the central region and in the South) would be useful to further verify and compare the findings across regions.

Second, it would be meaningful for future studies to make comparison of the findings among different patient groups across demographic variables. Third, this study could be expanded to some other emerging countries in the region, and to other healthcare sector (i.e., private hospitals). Finally, future studies could develop and incorporate the items measuring technical aspects of service quality into analyses.

References

Babakus, E., & Mangold, W.G. (1992). Adapting the SERVQUAL scale to hospital services: an empirical investigation. *Health Services Research*, 26 (6), 767-86.

Carman, J.M. (1990). Consumer perceptions of service quality: an assessment of the SERVQUAL dimensions. *Journal of Marketing*, 66 (1), 33-45.

Carman, J.M. (2000). Patient perceptions of service quality: combining the dimensions. *Journal of Management in Medicine*, 14 (5/6), 339-56.

Chahal, H., & Kumari, N. (2010). Development of multidimensional scale for healthcare service quality (HCSQ) in Indian context. *Journal of Indian Business Research*, 2 (4), 230-255.

Choi, Kui-Son, Lee, H., Kim, C., & Lee, S. (2005). The service quality dimensions and patient satisfaction relationship in South Korea: Comparisons across gender, age, and types of service. *The Journal of Services Marketing*, 19 (3), 140-149.

Flood, R.L., & Romm, N.R.A. (1996). *Diversity management: Triple loop learning*. John Wiley, Chichester.

Grönroos, C. (1990). *Service management and marketing*. Lexington Books, Lexington, MA.
Ladhari, R. (2008). Alternative measures of service quality: A review. *Managing Service Quality*, 18 (1), 65-86.

Llosa, S., Chandon, J, & Orsingher, C. (1998). An empirical study of SERVQUAL's dimensionality. *Service Industries Journal*, 18 (2), 16-44.

Minh Hung (2011). Shunning Hippocrates. (accessed November 08, 2013), [available at http://www.thanhniennews.com/2010/pages/20110416125458.aspxPrivatization of healthcare breeds unethical medical practices at public hospitals].

Nana, O., Nwankwo, S., & Dason, B. (2010). Measuring service quality and patient satisfaction with access to public and private healthcare delivery. *International Journal of Public Sector Management*, 23 (3), 203-220.

Narayan, Bindu, Rajendran, C., & Sai, L.P. (2008). Scales to measure and benchmark service quality in tourism industry: A second order factor approach. *Benchmarking: An International Journal*, 15 (4), 469-493.

Nguyen M. Tuan (2012). Effects of service quality and price fairness on student satisfaction. *International Journal of Business and Social Science*, 3 (19), 132-150.

Oliver, R.L. (1997). *Satisfaction: A Behavioral Perspective on the Consumer*. Boston: Irwin-McGraw-Hill, MA.

Pham T. Dung (2009). Overview of current Viet Nam hospital system. (accessed November 06, 2013), [available at http://www.vpha.org.vn/index.php/Tap-chi-Y-te-cong-cong-So-12/tng-quan-chung-v-bnh-vin-vit-nam-hin-nay.html].

Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1985). A conceptual model service quality and its implications for future research. *Journal of Marketing*, 49 (4), 41-50.

Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1988). SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64 (10), 12-40.

Phung, T.H.Ha, & Tran, T.T.Hien (2012). Customer satisfaction at Vietnam-Cuba hospital in Quang Binh province. *Journal of Science (Hue University)*, 72B (3), 75-84.

Prabha, R., Naidoo, P., & Nundlall, P. (2010). A proposed model for measuring service quality in secondary education. *International Journal of Quality and Service Sciences*, 2 (3), 335-351.
Schmnner, R.W. (1986). How can service business survive and prosper? *Sloan Management Review*, 27 (3), 21-32.

Thanh Nien Daily (2013). Fleeing bad hospitals, Vietnamese patients spend $2 billion abroad. (accessed November 06, 2013), [available at http://www.thanhniennews.com/2010/pages/20130127-vietnam-loses-$2-bil-a-year-to-foreign-hospitals-over-poor-services.aspx].

Ward, Keith F., Rolland, Erik, Patterson, & Raymand, A. (2005). Improving outpatient health care quality: Understanding the quality dimensions. *Health Care Management Review*, 30 (4), 361-371.

VietnamNews (2013). Public hospital fees to increase until 2018 after government decree. (accessed November 06, 2013), [available at http://vietnamnews.vn/opinion/247217/public-hospital-fees-to-increase-until-2018-after-government-decree.html].

Zaim, H., Bayyurt, N., & Zaim, S. (2010). Service quality and determinants of customer satisfaction in hospitals: Turkish experience. *International Business & Economics Research Journal*, 9 (5), 51-58.

Appendix

The items measuring patients' perceptions of healthcare service quality

Facilities, medical equipment and hospital environment (tangibles)

1. The quality of the hospital's care facilities is good
2. The medical equipment of the hospital is modern
3. The quality of the patient beds is good
4. Water and bathrooms in the hospital are in good status
5. The status of daily hygiene in the patient rooms is good
6. The hospital toilets are clean
7. The hospital physical environment (surroundings, trees, space, etc.) is good

Accessibility to healthcare services

1. The procedures of getting admission to the hospital are clear and simple
2. Medical staff provides clear guidance when being at the hospital
3. Waiting time for examination and treatment is too long (r)
4. Examination order is confused (r)
5. Doctors clearly and adequately explain the examination results and treatment process
6. Doctors' examination and treatment time is not adequate (r)

Attitude and medical ethics of hospital personnel

1. Medical staff show good attitude when receiving patients
2. Doctors are courteous and polite when examining patients
3. Doctors show good care when treating patients
4. Medical staff is courteous when guiding patients taking drug
5. Doctors are courteous when providing health advice to patients
6. Medical staff shows good care when guiding patients about discharge process
7. It is common that the medical staff receive envelop or non-transparent amount