Centre for ASEAN Studies

Centre for International Management and Development Antwerp

ISSN-2031-065X

An assessment of customer satisfaction in hotel industry in Cambodia[1]

Veasna UNG[2]

CAS Discussion paper No 89

April 2013

[1] This paper is largely based on my DBA thesis.

[2] I would like to express my gratitude to Dr. Reth Soeng for his many valuable comments, from which the paper greatly benefits. Dr. Veasna Ung is currently Chair of Faculty of Tourism and Hospitality, National University of Management, Phnom Penh, Cambodia. Email: ung_veasna@yahoo.com

Abstract

This paper analyses the factors that might influence hotel guest satisfaction in Cambodia's hotel industry. Using a sample of 608 respondents, it is found that hotel guests' expectations are greater than the perceived performance of hotels across all attributes of the dimensions. With perceived performance scores of on average greater than 5 on the seven-point Likert scale, it suggests that hotels' guests generally rated hotels' performance in terms of service quality favorably although it remains below their expectations. The econometric results show that six dimensions (tangibility, empathy, responsiveness, reliability, core hotel benefits, and assurance) have a significant, positive impact on the overall satisfaction of hotel guests, with tangibility dimension being the most important predictor of hotel guest satisfaction. The findings of the study indicate that the five dimensions of SERVQUAL cannot be replicated fully to hotel industry.

Keywords: Service Quality; Customer Satisfaction; Hotel Industry; Cambodia.

1. Introduction

Service sector has increasingly been considered as an important sector, making up the majority of the economies, in particular those of advanced nations (Akbaba, 2006; Jensen, 2011; Petri et al. 2012). The share of service sector contributing to output and employment is also growing, which is confirmed by Soubbotina (2004). The rapid development of the service industries in the 21th century and the inevitable rise in competition between rival companies have resulted in an increasing need for service providers to identify service quality gap in the market in order to improve service provision, retain customers and create new customers. This encourages firms to search for competitive advantages through placing more emphasis on the quality of their products—either goods and/or services. Firms that achieve high levels of service quality tend to realize high levels of customer satisfaction and sustainable competitive advantage (Guo et al., 2008).

Quality service has contributed significantly to firms' market shares, greater return on investment, lower production costs (Mueller and Bedwell, 1993; Phillips et al., 1983; Reichheld and Sasser, 1990), higher profitability (Gundersen et al., 1996) and customer satisfaction (Oliver, 1997). Providing quality service improves satisfaction of customers and this is believed to lead to the increased customer loyalty to the firm, repeat purchases of the same products, and long-term relationship commitment. Service quality has become an important research topic because of its perceived relationship to costs (Crosby, 1984), customer satisfaction (Bolton and Drew, 1991), customer retention and positive word-of-mouth communications (Reichheld and Sasser, 1990).

Moreover, highly satisfied customers also help to spread the positive word-of-mouth recommendations and in effect become walking, talking advertisements for providers whose service has pleased them, thus lowering the cost of attracting new customers. Satisfied customers tend to buy more, to be less price conscious, and to generate the positive word-of-mouth recommendations, thus contributing to profit (Anderson and Mittal, 2000). On the contrary, highly dissatisfied customers spread a faster negative word-of-mouth.

Currently, successful hotel management is experiencing the increased competitive pressures as a consequence of the combined effect of the globalization, economic-political integration tendencies, consolidation, and growing supply in emerging and mature tourist destinations, and actually local small and medium-size enterprise cannot escape from facing this competitive pressure (Kutter, 2007). Therefore, hotels have to strive to deliver to their guests with quality products and services. Hotels that provide superior service quality are likely to be successful in enhancing guest satisfaction and loyalty. So quality and customer satisfaction are the cornerstone for success in any business, and are perceived as key factors in acquiring and sustaining competitive advantage, retaining the existing customers and attracting the new ones,

creating long term profitability as well as improving living standard of employees in organizations.

Service quality is conceptualized and measured by a number of models. Among these numerous methods, the most widely used generic measure of service quality is probably the SERVQUAL model initially developed by Parasuraman et al. (1985) and later further refined by Parasuraman et al. (1988). Some authors have used the augmented SERVQUAL technology by incorporating other relevant dimensions such as core benefits and technologies (Ransaran-Fowder, 2007). Since its inception, the SERVQUAL model has been widely used in a large variety of service sectors, including hotel industry. Recent published studies on hotel sector have been carried out for many developing and developed countries, which include, among others, Malaysia (Mola and Jusoh, 2011; Huei and Easvaralingam, 2011; Fah and Kandasamy, 2011); Ghana (Appaw-Agbola and AfenyoDehlor, 2011); Scotland (Briggs et al., 2007); Pakistan (Malik et al., 2011; Abbasi et al., 2010; Naseem et al., 2011) and Jordan (Al khattab and Aldehayyat, 2011; Al-Rousan et al., 2010).

The purpose of the current study is to examine the impact of SERVQUAL dimensions on hotel guest satisfaction in the Cambodia's hotel industry. Specifically, the objective of this study is to measure and evaluate the service quality in the hotel industry, using the gap analysis and multiple regression analysis. The study also investigates the factors that contribute most significantly to guest satisfaction in the industry. A good understanding of these determining factors is critically important for the industry's managers in developing an effective strategy to improve hotel guest satisfaction. Research questions thus need to be formally formulated, and vigorous analysis are required to systematically answer the questions before any sound managerial implications can be provided.

2. Review of related literature

Service quality has been increasingly recognized as a critical factor in the success of any business (Parasuraman et al., 1985, 1988). Recently literature documents a number of methods used to measure service quality. However, the most well-known one is probably SERVQUAL technology, which is based on multiple dimensions (Parasuramanet al., 1985), thanks to its broad applicability in many service settings. The SERVQUAL initiated by Parasuraman et al. (1985) identified ten potentially overlapping components. These dimensions are reliability, responsiveness, competence, access, courtesy, credibility, security, understanding or knowing the customer, and tangibles. In their later studies, Parasuraman et al. (1988, 1990) reduced the original ten potentially overlapping dimensions to five testable dimensions. The five widely used dimensions include *tangibles* (referring to physical facilities, appearance of personnel and equipment); *reliability* (referring to the ability to perform the promised service dependably and accurately); *responsiveness* (referring to the willingness to help customers and provide prompt service); *assurance* (referring to the knowledge and courtesy of employees and their ability to

convey trust and confidence); and *empathy* (referring to the provision of caring, and personalized individual attention given to customers).

The SERVQUAL model, however, suffers from some criticisms on the theoretical and operational grounds, in particular operationalization of expectations, reliability of instruments' difference score formulation and scale's dimensionality across industrial settings (Sureshchandar et al., 2001; Baumann et al., 2007). In light of these criticisms, Buttle (1996) provides some future research directions; one of which is to continue to investigate the relationships among service quality, customer satisfaction, buying behavior, customer retention, behavioral intention, word-of-mouth communications and market share. Yet, despite SERVQUAL model being criticized, its core content remains unchanged and has been used for studies of service-providing business organizations in many countries. SERVQUAL model is also found to be superior in the measurement of service quality in developing economy (Angur et al., 1999). Parasuraman et al. (1990) claim that, with appropriate adaptation of the SERVQUAL model, it can be used in a wide range of service settings to ascertain the quality of service provided (Dhurup and Mohamane, 2007). Specifically, the SERVQUAL model has been used to evaluate service quality provided by hotel industry (Saleh and Ryan, 1991; Ramsaran-Fowdar, 2006). Similarly, Nyeck et al. (2002) indicate that SERVQUAL remains the most complete attempt to conceptualize and measure service quality.

In highly competitive industries, customer satisfaction has a positive impact on firms' profitability (Abbasi et al., 2010) and is essential for retaining customers (Clow and Vorhies, 1993; Oliver, 1989). This is valid for the hotel industry (Bowen and Shoemaker, 1998; Pizam and Ellis, 1999), and more generally in the broader service industry environment (Zeithaml et al., 1996). Many researchers come to a conclusion there are linkages between service quality and customer satisfaction (Spreng and MacKoy 1996; Buttle, 1996; Caruana, 2002; Cronin et al., 2000), and between customer satisfaction and consumer loyalty (Bloemer and Kasper, 1995; Buttle, 1996), and between customer satisfaction and purchasing intentions (Cronin and Taylor 1992; Woodside et al., 1989).

In her study of hotel industry in Mauritius, Ramsaran-Fowdar (2007) incorporated two additional dimensions, core benefits and hotel technologies, to those of SERVQUAL model. Ramsaran-Fowdar's results suggest that the five conventional dimensions of SERVQUAL technology cannot be fully replicated to hotel industry. Additional dimensions, such as hotel core benefits (including comfortable, relaxed and welcome feeling; quietness of rooms; security and safety, etc.) and hotel technologies (including access to telephone, computers with internet connection, televisions, email, wake-up system, etc.) are also shown to be important attributes that hotel guests use to evaluate hotel service in Mauritius. Service quality in the hotel industry has also been examined in a number of studies (Briggs et al., 2007; Mola and Jusoh, 2011; Appaw-Agbola and AfenyoDehlor, 2011; Huei and Easvaralingam, 2011).

In a more recent study by Fah and Kandasamy (2011) to determine the dimensions of service quality in Malaysia, they find that service dimension of tangibility carries the heaviest weight in explaining customer satisfaction, followed by responsiveness, empathy, reliability and assurance. For Pakistan's hotel sector, Malik et al. (2011) finds that hotel tangibles, empathy and reliability dimensions are found to be the significant predictors of overall customer satisfaction and brand loyalty, with tangible dimension making the most contribution. Similarly, Al khattab and Aldehayyat (2011) find for hotel sector in Jordan that service dimensions of reliability, responsiveness and assurance are found to positively impact upon customer satisfaction.

3. Research methodology

3.1 Data collection and instrument

To evaluate service quality in the Cambodian hotel industry, a questionnaire is designed and distributed randomly to target respondents, who are staying a hotel in the capital city of Phnom Penh and the provinces of Siem Reap and Preah Sihanouk, which are attractive to tourists. In order to receive the most accurate responses possible, for Cambodian respondents the questionnaires were translated into Khmer, the official language of Cambodia. The questionnaire includes the five widely-used dimensions (tangibility, reliability, responsiveness, assurance, and empathy) and two additional dimensions of service quality (hotel core hotel benefits and hotel technologies), following Ramsaran-Fowdar (2007).

The questionnaire is classified into four major parts. The first part of the questionnaire contains respondents' perceived performance of their hotels. In the second part, questions were asked to obtain respondents' expectations of their hotels. The third part captures the information related to overall satisfaction. Respondents were asked to respond to each item on the widely used seven-point Likert scale, ranging from 7 being extremely satisfied to 1 representing extremely dissatisfied. The scale is often used for measuring satisfaction and other related-satisfaction variables (Marinkovic at al., 2011). The final part of the questionnaire is used to get the information on the socio-demographic information of the respondents.

In order to produce the best possible estimates, the collection of a reasonably large data set has to be made from the population. Roscoe (1975) suggests a series of general rules in determining the acceptable sample size for research, and proposes that, for any research intending to conduct a multiple regression analysis, a sample size should be 10 times as large as that of the number of variables. This research is to assess service quality through satisfaction of guests who recently stayed or are staying in the hotel of price from US$20 to US$100 per night. 1500 questionnaires were randomly distributed to hotel guests in Phnom Penh city and the provinces of Siem Reap and Preah Sihanouk. It took around eight months to complete the

data collection and the rate of the responses was about 41 percent. Following cleaning process of the data, a sample of 608 respondents is considered usable for the analysis.

3.2 Analytical methods

The statistical analysis of data consists of descriptive statistics, gap analysis and multivariate data analysis and other necessary testing in order to avoid reporting misleading results. Reliability and consistency analysis, using Cronbach's alpha coefficient values, is to be carried out to test for the internal consistency of each of the perception and expectation attributes. It is generally agreed that Cronbach's alpha coefficients should exceed 0.70 to be internally consistent and reliable (Nunnally, 1967; Hair et al., 2010).

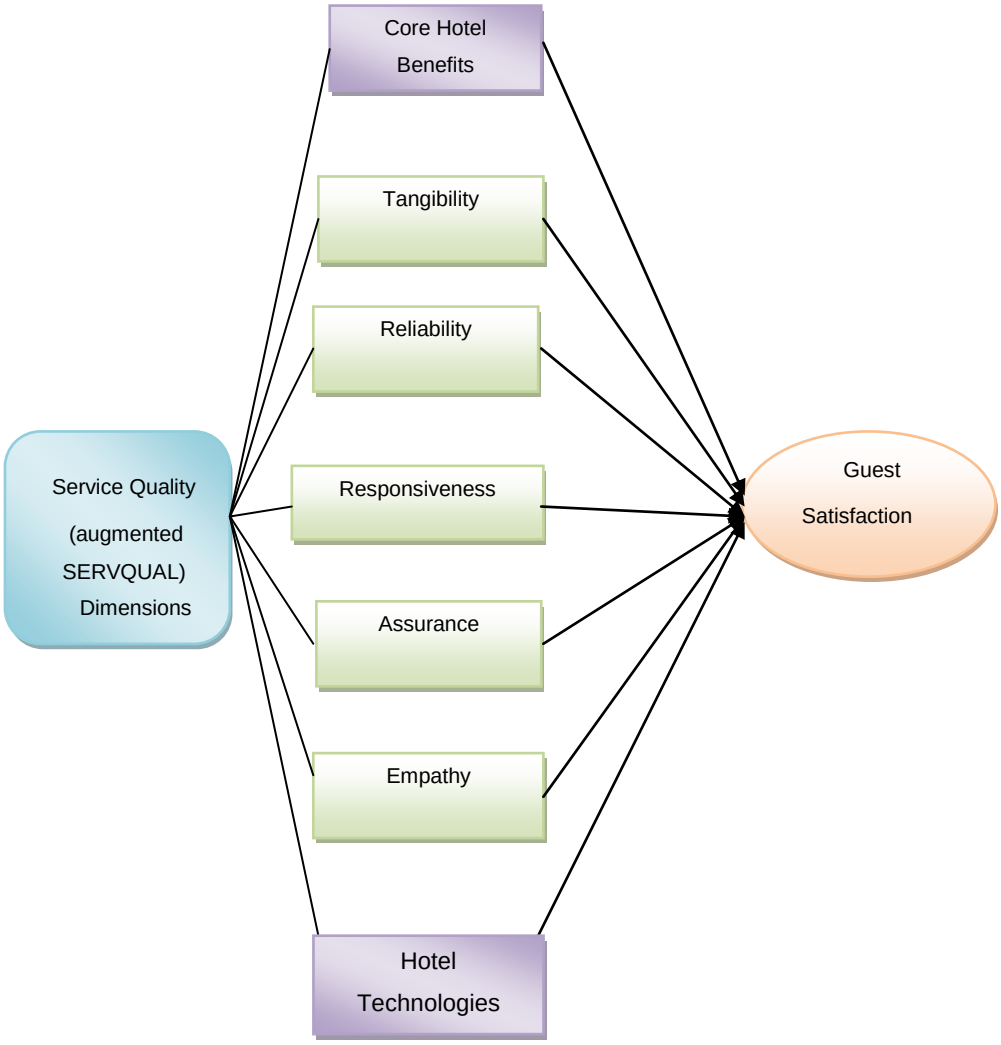
Since data set used is cross-sectional data, heteroskedasticity is often present in such a data set. Therefore, the OLS estimator is no longer the best linear unbiased estimator and the t-statistic is not t-distributed. Likewise, F-statistic is no longer F-distributed. Before presenting econometric results, we carry out several tests, such as those for multicollinearity, based on variance inflation factor (VIF), and heteroskedasticity.

There are a number of tests for heteroskedasticity (Wooldridge, 2006): the Breusch and Pagan (1979) test for heteroskedasticity (Verbeek, 2004; Wooldridge, 2006); the general White test for heteroskedasticity, which suffers from a weakness in the pure form of the test because it employs many degrees of freedom (Soeng, 2008); and the special White test for heteroskedasticity. In order to save degrees of freedom, the special White test for heteroskedasticity is used in the current paper, which incorporates the Breusch-Pagan and the general White tests. The special White test suggests testing for heteroskedasticity by estimating the OLS squared residuals on fitted values and squared fitted values. Under the null hypothesis, the LM statistic for the special White test is χ^2 distributed with two degrees of freedom, regardless of the number of independent variables in the model (Soeng, 2008). This is why the special White test for heteroskedasticity is to be preferred. The multicollinearity check is made through values of variance inflation factor (VIF). In order to obtain stable estimated slope parameters, VIF should be lower than five (Studenmund, 2006).

3.3 The Model

Service quality is the customer's judgment about the service delivered by a service-providing firm. As cited by Su (2004), service quality is defined as the degree and direction of discrepancy between a customer's perceptions and expectations, while perceived service quality is the gap between a customer's expectations and perceptions (Parasuraman et al., 1985). In light of discussion in the review of related literature, following among others Ramsaran-Fowder (2007), Jamal and Anastasiadou (2009) and Marinkovic et al. (2011) the relationship between service quality and customer satisfaction can be modeled, which is presented in Figure 1.

Figure 1: Proposed Research Model



4. Empirical results and discussion

4.1 Basic statistics

The profile of respondents is presented in Table 1. A broad range of age group was represented, with 35.4% of the sample aged between 20 and 25. Of the 608 respondents, almost 55.4% were male and 22.9%of respondents were private businesspeople. Around 31.3% of the respondents reported that they have relatively low income of less than US$ 200 per month. This is not surprising as almost all visitors are Cambodians. Over 35.2% and 63.7% of respondents said they were staying hotel one night and used to stay at the hotel in the past years. More than 26.3% and 33.7% were on holidays and for reason of convenience, respectively. Nearly 17.6% of guests afford to expend up to US$ 30 per night at hotel.

Table 1: Descriptive Statistics of Characteristics of Respondents

Respondent's Characteristics	Frequency	Percentage
Age		
Under 20	20	3.3
20-25	215	35.4
26-30	174	28.6
31-35	81	13.3
36-40	43	7.1
41-45	33	5.4
46-50	25	4.1
Over 50	17	2.8
Gender		
Male	337	55.4
Female	271	44.6
Occupation		
Professional	52	8.6
Manager/Administrator	86	14.1
Professor/Teacher/Researcher	46	7.6
Proprietor	13	2.1
Self-employed	47	7.7
Student	103	16.9
Technician/Engineer	26	4.3
Private businesspeople	139	22.9
Factory worker	9	1.5
Others	87	14.3
Income		
Under $200	190	31.3
$200 - $400	175	28.8
$401 - $600	82	13.5
$601 - $800	56	9.2
$801 - $1000	32	5.3
$1001 - $1200	19	3.1
$1201 - $1400	2	0.3
$1401 - $1600	5	0.8
$1601 - $1800	4	0.7
$1801 - $2000	15	2.5
Over $2000	28	4.6
Number of Nights		
Half day (1-5 hours)	16	2.6
1 night	214	35.2
2 nights	148	24.3
3 nights	83	13.7
4 nights	21	3.5
5 nights	15	2.5
over 5 nights	111	18.3
Number of Times Stayed At the Hotel		
One/Twice	387	63.7
Three/Five	147	24.2
Five/Ten	52	8.6
More than 10 times	22	3.6
Purpose of Trip		
Business travel	149	24.5
Entertainment (concert, theatre, etc.)	160	26.3
Family matters (wedding, anniversary, honeymoon etc.	128	21.1
Game in town – food ball, basketball etc.	4	0.7
Conference	65	10.7
Others	102	16.8
Reasons to Choose the Hotel		
Convenience location	205	33.7

Company contract with hotel	95	15.6
Excellent service	141	23.2
Reasonable room rate	114	18.8
Others	53	8.7
Hotel Rate Per Day Stay (US$)		
20	63	10.4
25	68	11.2
30	107	17.6
35	38	6.3
40	76	12.5
45	21	3.5
50	78	12.8
55	4	0.7
60	30	4.9
65	4	0.7
70	15	2.5
75	8	1.3
80	24	3.9
85	3	0.5
90	9	1.5
95	4	0.7
100	56	9.2
Total	608	100

Table 2 reports the results of reliability checks for both dependent and explanatory variables. Cronbach's alpha values for all variables are high, exceeding the 0.7 cut-off recommended by Hair et al (2010). As can be also seen from Table 2, Cronbach's Alpha estimated for tangibles scale was 0.851; reliability scale was 0.829; responsiveness scale was 0.862; assurance scale was 0.858; empathy scale was 0.874, core hotel benefits scale was 0.887, hotel technologies scale was 0.832 and overall customer satisfaction scale was 0.848. As the Cronbach's Alpha in this study was all much higher than 0.7, the constructs were therefore deemed to have an adequate reliability (Hair et al., 2010). Based on estimated reliability coefficients,it is apparent that the adjusted SERVQUAL scale is a highly reliable instrument.

Table 2: Reliability Checks for Individual Variables

	Case		Reliability Statistics	
Augmented SERVQUAL dimensions	No. of Obs.	%	Cronbach's Alpha	No. of Items
Tangibility	608	100	0.851	7
Reliability	608	100	0.829	4
Responsiveness	608	100	0.862	2
Assurance	608	100	0.858	3
Empathy	628	100	0.874	6
Core hotel benefit	608	100	0.887	6
Hotel technologies	608	100	0.832	2
Overall customer satisfaction	608	100	0.848	3

Table 3 reports the average augmented SERVQUAL's each attribute score. Raw scores for the perceived level of excellence and for the expected level of excellence are on the seven-point scale for attributes, which are considered to be important to hotel guests. For each of the

attributes, the perceived performance and expectation scores are calculated. The difference is the gap scores, which measure service quality. As can be seen from the Table 3, the augmented SERVQUAL scores for all items bear the negative signs, indicating that hotel customers' expectations are greater than the perceived performance of hotels across all attributes of the dimensions and difference between P and E for each of the dimensions is highly significant at the 1% level, confirming that hotel customers' expectations for each of the service dimensions are greater than the perceived performance. It should be noted that perceived performance scores in Table 3 are on average greater than five, which is above the mid-point on the seven-point scale. This clearly indicates that hotels' customers generally rated hotels' performance in terms of service quality very favorably although it remains below expectations of the hotel's guests.

The results reported in Table 3 also can be summarized as follows. First, hotel guests' expectation is the highest for the dimension of core hotel benefits, which suggests that giving comfortable, relaxed and welcome feeling, quietness of rooms, security of room, comfortable and clean mattresses, pillows, beds, sheets and covers, reasonable room rates and variety of basic products and services offered (including toothpastes, soaps, shampoo, towels, toilet papers, stationery, laundry, ironing, tea, coffee, drinking water) are the most important dimension. The second is that widest gap score between expectations and perceived performance in the hotel technologies dimension, indicating that hotels in Cambodia do not appear to pay much attention to the installation of technology elements in their hotels. Third, responsiveness dimension has the smallest gap score among the seven dimensions under consideration, implying that service quality is rated the highest for this dimension. These findings, however, have to be checked against more rigorous examinations, such as the use of multivariate analysis, which incorporates all the attributes that may affect hotel guest satisfaction derived from service quality delivered by their most used hotels.

Table 3: Average augmented SERVQUAL Scores of Hotel Guests in Cambodia

Dimension items		Perception Score (P)	Expectation Score (E)	Gap Score (P - E)
Tangibility	Appealing interior and exterior hotel decor	5.23	5.40	-0.17
	Spaciousness of rooms	5.22	5.56	-0.34
	Hygienic bathrooms and toilets	5.56	5.82	-0.26
	Convenience hotel location	5.50	5.65	-0.15
	Neat and professional appearance of staff	5.26	5.47	-0.21
	Visually appealing brochures, pamphlets	4.88	4.97	-0.09
	Image of the hotel	5.11	5.32	-0.21
Mean		**5.29**	**5.45**	**-0.16*** **
Reliability	Performing the services at the time promised	5.40	5.57	-0.17
	Hotel has experienced staff	5.27	5.48	-0.21
	Accurate information about hotel services	5.50	5.66	-0.16
	Timely housekeeping services	5.43	5.48	-0.05
Mean		**5.40**	**5.55**	**-.115*** **
Responsiveness	Willingness of staff to provide help promptly	5.35	5.50	-0.15
	Availability of staff to provide service	5.43	5.50	-0.07
Mean		**5.39**	**5.50**	**-0.11*** **
Assurances	Friendliness of staff	5.54	5.49	-0.05
	Courteous employees	5.34	5.61	-0.27
	Ability of staff to instill confidence into customers	5.35	5.56	-0.21
Mean		**5.43**	**5.57**	**-0.14*** **
Empathy	Availability of room service	5.27	5.56	-0.29
	Giving special attention to the customer	5.06	5.12	-0.06
	Recognizing the hotel customer	5.26	5.50	-0.24
	Understanding the customer's requirements and needs	5.26	5.58	-0.32
	Listening carefully to complaints	5.34	5.66	-0.32
	Hotel to have customers' best interest at heart	5.34	5.52	-0.18
Mean		**5.25**	**5.49**	**-0.24*** **
Core Hotel Benefits	Comfortable, relaxed and welcome feeling	5.54	5.76	-0.22
	Quietness of rooms	5.59	5.62	-0.03
	Security of rooms	5.75	5.97	-0.22
	Comfortable and clean mattresses, pillows, beds, sheets and covers	5.77	5.88	-0.11
	Reasonable room rates	5.41	5.63	-0.22
	Variety of basic products and services offered (toothpaste, soap, shampoo, towel, toilet paper, stationery, laundry, ironing, tea, coffee, drinking water)	5.60	5.62	-0.02
Mean		**5.61**	**5.75**	**-0.14*** **
Hotel technologies	In-room technologies (telephone, voicemail, TV, internet plug, meal ordering, email, wake-up system)	5.06	5.34	-0.28
	Hotel technologies(online reservation, email, internet, fax, international calling facilities, hotel website, direct hotel email, computerized feedback form, special promotions on hotel website, acceptance of credit and debit cards)	5.10	5.38	-0.28
Mean		**5.08**	**5.36**	**-0.28*** **
Overall Guest Satisfaction		5.36	5.54	-0.18

Note: *** denotes statistical significance at the 1% significance level.

4.2 The empirical model

Based on the review of the related literature and previous empirical studies, following among others Ramsaran-Fowder (2007), Jamal and Anastasiadou (2009) and Marinkovic et al. (2011) the relationship between service quality and customer satisfaction can be explicitly modeled as follows:

$$OGS = \beta_0 + \beta_1 \text{ Tangibility} + \beta_2 \text{ Reliability} + \beta_3 \text{Responsiveness} + \beta_4 \text{Assurance} + \beta_5 \text{ Empathy} + \beta_6 \text{ Core Hotel Benefits} + \beta_7 \text{ Hotel Technologies} + \varepsilon,$$

where OGS denotes overall guest satisfaction, and ε is error term, which is assumed to be normally distributed.

The data set used for the analysis is from a sample of 608 hotel guests who recently stayed in hotels in Phnom Penh and two tourism provinces of Siem Reap and Sihanoukville. The data set contains detailed information on the explanatory variables--tangibles, reliability, responsiveness, assurance, empathy, core hotel benefits and technologies--which are included in the empirical model presented above. Before presenting econometric results, several tests are carried out, such as those for multicollinearity, based on variance inflation factor (VIF), and heteroskedasticity.

Table 4: Impact of All Augmented SERVQUAL Dimensions on Hotel Guest Satisfaction

Variable	Unstandardized coefficients	Std. Error	Beta Coefficients	t-stat	P-value	VIF
Constant	0.181	0.100	–	–	–	–
Tangibility	0.292	0.033	0.275	8.957	0.000	3.359
Reliability	0.155	0.038	0.157	4.099	0.000	5.275
Responsiveness	0.150	0.027	0.177	5.628	0.000	3.552
Assurance	0.098	0.028	0.112	3.566	0.000	3.507
Empathy	0.138	0.031	0.144	4.445	0.000	3.728
Hotel Benefits	0.130	0.031	0.137	4.154	0.000	3.894
Hotel technologies	0.015	0.014	0.022	1.038	0.300	1.605
No. of Obs.	608					
R^2	0.8321					
Special White Test Statistic	1.80 (P-value = 0.1666)					

Table 4 presents the estimation results, along with test statistic. As can be seen from this table, VIF values for all independent variables are much less than five, implying that multicollinearity issues are of no concerns. Overall guest satisfaction is regressed on seven service quality dimensions—tangibility, reliability, responsiveness, assurance, empathy, core hotel benefits and technologies. It is found that the special case of White test statistic of 1.80 with p-value of 0.1666 is statistically insignificant at any conventional significance level, suggesting no

heteroskedasticity in the data set. The seven dimensions explain 83.21 per cent of the variation of the overall guest satisfaction, which is statistically significant at less 1% significance level (F-value = 424.91 and P-value < 0.001).

To identify which dimensions of service quality contribute most significantly to the overall customer satisfaction, a regression using z-scores is run to obtain standardized coefficients or beta coefficients. The use of a regression with standardized coefficients has an advantage over that with the unstandardized or OLS coefficients in that, in the former, the explanatory variables are put on an equal footing (Wooldridge, 2006). Therefore, explanatory variables with higher standardized coefficients contribute more significantly to the dependent variable. The estimation results suggest that the regression model is statistically significant and that the seven service quality dimensions exert a positive effect on the overall guest satisfaction, except hotel technologies dimension which lacks statistical significance (Table 4), which is in line with Ramsaran-Fowdar (2006). The highest estimated standardized coefficient on tangibility dimension of 0.275implies that the dimension makes the greatest contribution to hotel satisfaction, followed by the service quality dimensions of responsiveness (0.177), reliability (0.157), empathy (0.144), hotel benefits (0.137) and assurance (0.112). These findings indicate that tangibility has been the most important predictor of overall hotel guest satisfaction in the Cambodia's hotel industry.

The result of hypothesis testing is presented in Table 5 below:

Table 5: Summary of Hypotheses Testing

Hypotheses	***Result***
H_1: Tangibility dimension is significantly positively associated with customer Satisfaction	Support
H_2: Reliability dimension is significantly positively associated with customer Satisfaction	Support
H_3: Responsiveness dimension is significantly positively associated with customer Satisfaction	Support
H_4: Assurance dimension is significantly positively associated with customer Satisfaction	Support
H_5: Empathy dimension is significantly positively associated with customer Satisfaction	Support
H_6: Core hotel benefit dimension is significantly positively associated with customer Satisfaction	Support
H_7: Hotel technology dimension is significantly positively associated with customer Satisfaction but not significant	Not Support

5. Conclusion and implications

The current study started out with detailed descriptions of service quality dimensions of augmented SERVQUAL model and addressed the research questions with respect to service dimensions that may influence hotel guest satisfaction in Cambodia's hotel industry. It also seeks to identify the dimensions that contribute most significantly to overall guest satisfaction. The purposes of the study are to identify the relationship between SERVQUAL dimension attributes and the overall satisfaction of tourists who recently stayed in hotels in three major tourist attractions of Phnom Penh and the provinces of Preah Sihanouk and Siem Reap. Survey questionnaires were distributed randomly to 1500 respondents; but after rounds of verification only 608 are usable.

In order to measure service quality of hotels, gap analysis is undertaken to compare hotel guests' expectations with the perceived performance. The difference is the measurement of service quality, and t-test was performed to determine the statistical, significant difference between the two. The scores for all items bear the negative signs, indicating that hotel guests' expectations are greater than the perceived performance of hotels across all attributes of the seven dimensions.

Using multiple regression analysis, the study shows that six dimensions (tangibility, empathy, responsiveness, reliability, core hotel benefits, and assurance) have a significant, positive impact on the overall satisfaction of hotel guests, with tangibility dimension being the most important predictor of hotel guest satisfaction. This result emphasizes the importance of tangibility dimension, which is consistent with the findings of Fah and Kandasamy (2011) for Malaysia and Al-Rousan and Badaruddin (2010) for Jordan, who report that tangibility dimension is the most important antecedents that trigger guest satisfaction. The findings of the study indicate that the five dimensions of SERVQUAL cannot be replicated fully to hotel industry. Another dimension, core benefits, is of equal importance. The results present a number of managerial implications and recommendations for hotel management, while contributing to the improvements of the SERVQUAL model, with application to hotel industry in Cambodia (Figure 2).

Figure 2: Effects of service quality dimensions on guest satisfaction, revisit intention, and word-of-month recommendations.

While special attention should be paid to the most important trigger of hotel guest satisfaction, hotel management should also place an emphasis other significant predictors such as empathy (giving special attention to the customer, availability of room service, understanding the customer's requirement, listening carefully to complaints of hotel guests and hotels have to regard the customers who are best interested at heart); responsiveness (willingness of staff to provide help promptly to guests and availability of staff to provide service perfectly); core hotel benefits (providing comfortable, relaxed and welcome feeling to guest, quietness of rooms, security of room, comfortable and clean mattress, pillow, bed, sheets and covers, reasonable room rates and give variety of basic products and services such as toothpaste, soap, shampoo, towels, toilet paper, stationery, laundry, ironing, tea, coffee, drinking water); Reliability (performing the services at the time promised, hotels should have experienced staff, giving an accurate information about hotel services and providing timely housekeeping services to hotel guest); and assurance (friendliness of staff, courteous employees and ability of staff to install confidence in customers).

Although this study provides contributions from both theoretical and practical perspective for Cambodia, there are a few limitations. First, this research was conducted in Phnom Penh and two provinces of Siem Reap and Sihanoukville, most attractive to tourists. Second, it was conducted based solely on hotel industry; the result of which many not be generalized to other service organizations. Future research should be conducted to measure customer satisfaction with tourism-related sectors, such as travel agencies and restaurants.

REFERENCES

- Abbasi, S.A., Khalid, W., Azam, M. and Riaz, A. (2010). Determinants of Customer Satisfaction in Hotel Industry of Pakistan, European Journal of Scientific Research, Vol.48, pp. 97-105.
- Akbaba, A. (2006). Measuring Service Quality in the Hotel Industry: A study in a Business Hotel in Turkey, Hospitality Management, Vol. 25, pp. 170-192.
- Al Khattab, S.A. and Aldehayyat, J.S. (2011). Perceptions of Service Quality in Jordanian Hotels, International Journal of Business and Management, Vol. 6, pp. 226-233.
- Al-Rousan, M.R., and Mohamed, B. (2010). Customer Loyalty and the Impacts of Service Quality: The Case of Five Star Hotels in Jordan, International Journal of Human and Social Sciences, Vol. 5, pp. 886-892.
- Anderson, E. and Mittal, V. (2000). Strengthening the Satisfaction-Profit Chain, Journal of Service Research, Vol. 3, pp. 107-120.
- Angur, M.G., Nataraajan, R., and Jahera, J.S. (1999). Service Quality in the Banking Industry: An Assessment in a Developing Economy, International Journal of Bank Marketing, Vol. 17, pp. 116-125.
- Appaw-Agbola, E.T. and AfenyoDehlor, S. (2011). Service Quality in Ghanas Tourism Industry: A Perspective from Tourists and Hotel Managers in the Volta Region, World Review of Business Research, Vol. 1, pp. 110-125.
- Baumann, C., Burton, S., Elliott, G. and Kehr, H.M. (2007). Prediction of Attitude and Behavioural Intentions in Retail Banking, International Journal of Bank Marketing, Vol. 25, pp. 102-116.
- Bloemer, J.M.M. and Kasper, H.D.P. (1995). The Complex Relationship Between Consumer Satisfaction and brand loyalty, Journal of Economic Psychology, Vol. 16, pp. 311-329.
- Bolton, R.N. and Drew, J.H. (1991). A Multistage Model of Customers Assessment of Service Quality and Value, Journal of Consumer Research, Vol. 17, pp. 375-384.
- Bowen, J.T. and Shoemaker, S. (1998). Loyalty: A Strategic Commitment, Cornell Hotel and Restaurant Administration Quarterly, Vol. 39, pp. 12-25.
- Breusch, T.S. and Pagan, A.R. (1979). A Simple Test for Heteroskedasticity and Random Coefficient Variation, Econometrica, Vol. 47, pp. 1287-1294.
- Briggs, S., Sutherland, J. and Drummond, S. (2007). Are Hotels Serving Quality? An Exploratory Study of Service Quality in the Scottish Hotel Sector, Tourism Management, Vol. 28, pp. 1006-1019.
- Buttle, F. (1996). SERVQUAL: Review, Critique, Research Agenda, European Journal of Marketing, Vol. 30, pp. 8-35.
- Caruana, A. (2002). Service Loyalty: the Effect of Service Quality and the Mediating Role of Customer Satisfaction, European Journal of Marketing. Vol. 36, pp.811-830
- Clow, K.E. and Vorhies, D.W. (1993). Building a Competitive Advantage for Service Firms: Measurement of Consumer Expectations of Service Quality, Journal of Services Marketing, Vol. 7, pp. 22-32.
- Cronin, J.J., Brady, M.K. and Hult, G.T.M. (2000). Assessing the Effects of Quality, Value, and Customer Satisfaction on Consumer Behavioral Intentions in Service Environments, Journal of Retailing, Vol. 76, pp. 193-218.
- Cronin, J.J., and Taylor, S.A. (1992). Measuring service quality: A reexamination and extension, Journal of Marketing, Vol. 56, pp. 55-68.
- Crosby, P.B. (1984). Quality Without Tears, New York: New American Library
- Dhurup, M. and Mohamane, P.B.P.L. (2007). Assessing Internal Marketplace Relationships: Measuring Internal Service Quality within a Petrochemical Company, Southern African Business Review, Vol. 11, pp. 56-78.
- Fah, L.K. and Kandasamy, S. (2011). An Investigation of Service Quality and Customer Satisfaction Among Hotels in Langkawi, International Conference on Management, Hydro Hotel, Malaysia (13-14 June 2011).
- Gunderson, M.G., Heide, M. and Olsson, U.H. (1996). Hotel Guest Satisfaction among Business Travelers: What are the Important Factors?, Cornell Hotel and Restaurant Administration Quarterly, Vol. 37, pp. 72-81.
- Guo, X., Duff, A. and Hair, M. (2008). Service Quality Measurement in the Chinese Corporate Banking Market, International Journal of Bank Marketing, Vol. 26, pp. 305-327.
- Hair, J.F, Black, W.C., Babin, B.J. and Anderson, R.E. (2010). Multivariate Data Analysis: A Global Perspective, (10th Edition). New Jersey: Pearson.
- Huei, C.T. and Easvaralingam, Y. (2011). Perceptions of Service Quality, Corporate Image, and Customer Loyality in the Hotel Industry of Malaysia, The 2 nd International Research Symposium in Service Management, Yogyakarta, Indonesia (26-30 July 2011).
- Jamal, A. and Anastasiadou, K. (2009). Investigating the Effects of Service Quality Dimensions and Expertise on Loyalty, European Journal of Marketing, Vol. 43, pp. 398-420.
- Jensen, J. B. (2011). Global Trade in Services: Fear, Facts, and Offshoring, Washington, DC: Peterson Institute for International Economics.
- Kutter, L. (2007). The Influence of National Culture on Service Quality Perceptions of European Hotel Guests: A studying focusing on four small hotels in Granada, Spain and on British, French and Spanish hotel guests, manuscript (August 2007). accessed at http://www.du.se/PageFiles/5054/Kutter.pdf.

- Malik, M.E., Naeem, B. and Nasir, A.M. (2011). Hotel Service Quality and Brand Loyalty, Interdisciplinary Journal of Contemporary Research in Business, Vol. 3, pp. 621-629.
- Marinković, V., Senić, V., Kocić, M., and Šapić, S. (2011). Investigating the Impact of SERVQUAL Dimensions on Customer Satisfaction: The Lessons Learnt from Serbian Travel Agencies, International Journal of Tourism Research, DOI: 10.1002/jtr.884.
- Mola, F. and Jusoh, J. (2011). Service Quality in Penang Hotels: A Gap Score Analysis, World Applied Sciences Journal, Vol.12, pp.19-24
- Mueller, G. and Bedwell, D. (1993). Customer Service and Service Quality, in E. Shewing (ed.). The Service Quality Handbook, New York: AMACOM.
- Naseem, A., Ejaz, S. and Malik GPHR, K.P (2011). Improvement of Hotel Service Quality: An Empirical Research in Pakistan, International Journal of Multidisciplinary Sciences and Engineering, Vol. 2, pp. 52-56.
- Nunnally, J. C. (1967). Psychometric Theory, New York: McGraw-Hill.
- Nyeck, S., Morales, M., Ladhari, R., and Pons, F. (2002). 10 years of Service Quality Measurement: Reviewing the Sse of the SERVQUAL Instrument, Cuadernos de Diffusion, Vol. 7, pp.101-107.
- Oliver, R.L. (1989). Processing of the Satisfaction Response in Consumption: A Suggested Framework and Research Propositions, Journal of Consumer Satisfaction , Dissatisfaction and Complaining Behavior, Vol. 2, pp. 1-16.
- Oliver, R.L. (1997). Satisfaction: A Behavioural Perspective on the Customer, New York: McGraw-Hill.
- Parasuraman, A., Zeithaml, V. and Berry, L.L. (1985). A Conceptual Model of Service Quality and its Implications for Future Research, Journal of Marketing, Vol. 49, pp. 41-50.
- Parasuraman, A., Zeithaml, V. and Berry, L.L. (1988). SERVQUAL: A Multiple Item Scale for Measuring Consumer Perceptions of Service Quality, Journal of Retailing, Vol. 64, pp. 12-40.
- Parasuraman, A., Berry, L.L, and Zeithaml, V. A. (1990). Guidelines for Conducting Service Quality Research, Marketing Research, Vol. 2, pp. 34-44.
- Petri, P.A., Plumer, M.G. And Zhai, F. (2012). ASEAN Economic Community: A General Equilibrium Analysis, Asian Economic Journal, Vol. 26, pp. 93-118.
- Phillips, L.W., Chang, D.R. and Buzzell, R.D. (1983). Product Quality, Cost Position and Business Performance: A Test of Some Key Hypotheses, Journal of Marketing, Vol. 47, pp. 26-43.
- Pizam, A and Ellis, T. (1999). Customer Satisfaction and its Measurement in Hospitality Enterprises, International Journal of Contemporary Hospitality Management, Vol. 11, pp. 326-339.
- Ramsaran-Fowder, R.R. (2007). Developing a Service Quality Questionnaire for the Hotel Industry in Mauritius, Journal of Vacation Marketing, Vol. 13, pp. 19-27.
- Reichheld, F.F. and Sasser, E.W. (1990). Zero Defections: Quality Comes to Services, Harvard Business Review, Vol. 68, pp. 105-111.
- Roscoe, J. (1975). Fundamentals of Research Statistics for the Behaviour Sciences, Holt, Rineheart and Winston, USA.
- Saleh, F. and Ryan, C. (1991). Analyzing Service Quality in the Hospitality Industry Using the SERVQUAL model, Service Industries Journal, Vol. 11, pp. 324-343.
- Soeng, R. (2008). Foreign Direct Investment in Cambodia: Determinants and Impact on Domestic Labour Productivity and International Trade, PhD Dissertation, Faculty of Applied Economics, University of Antwerp, Belgium.
- Soubbotina, T.P. (2004). Beyond Economic Growth: An Introduction to Sustainable Development, Washington, DC: The World Bank.
- Spreng, R. A. Mackoy, R.D. (1996). An Empirical Examination of a Model of Perceived Service Quality and Satisfaction, Journal of Retailing, Vol. 72, pp. 201-214.
- Studenmund, A. H. (2006). Using Econometrics: A Practical Guide, (5th Edition). New Jersey: Pearson.
- Su, A. Y.L. (2004). Customer Satisfaction Measurement Practice in Taiwan Hotels, Hospitality Management, Vol. 23, pp. 397-408.
- Sureshchandar, G.S., Rajendran, C. and Kamallanabhan, T.J. (2001). Customer Perceptions of Service Quality: a critique, Total Quality Management, Vol. 12(1). pp. 111-124.
- Verbeek, M. (2004). A Guide to Modern Econometrics, (2nd edition). Chichester: John Wiley.
- Woodside, A.G., Frey, L.L. and Daly, R.T. (1989). Linking Service Quality, Customer Satisfaction, and Behavioral Intention, Journal of Health Care Marketing, Vol. 9, pp. 5-17.
- Wooldridge, J.M. (2006). Introductory Econometrics: A Modern Approach, (3th Edition). Ohio: South-Western.
- Zeithaml, V.A., Berry, L.L. and Parasuraman, A. (1996). The Behavioral Consequences of Service Quality, Journal of Marketing, Vol. 60, pp. 31-47.