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An empirical study of behavioral intentions in the Taiwan hotel industry

Abstract

The behavioral intentions of customers are playing an increasingly important role in generating profits in the hotel industry. The aim of this research is to gain an improved understanding of behavioral intentions in the Taiwan hotel sector. A hierarchical model is developed and empirically tested in the analysis. The dimensions of service quality, as perceived by hotel customers, are identified through the literature review and focus group discussions. Hypotheses are formulated and tested to examine the interrelationships between behavioral intentions, service quality, customer satisfaction, perceived value and image, and to test if perceived value plays a moderating role between service quality and customer satisfaction. Finally, customer perceptions of these constructs are compared based on demographic factors such as age, gender and income.

Statistical support is found for the use of a multi-level model, three primary dimensions, and twelve sub-dimensions. In addition, the statistical results support relationships between perceived value and service quality, image and service quality, customer satisfaction, perceived value, image and service quality, and behavioral intentions, image and customer satisfaction. The results also reveal that the perceptions of the constructs are primarily affected by purpose of travel and occupation of customers.

Keywords: hierarchical model, service quality, perceived value, image, customer satisfaction, behavioral intentions.

Introduction

Tourism in Taiwan is becoming increasingly important and in order to satisfy tourists' needs and wants, the Taiwanese government is engaged in tourism development. The high season for travelling to Taiwan is July, the peak of the summer vacation period (Lang, O'Leary & Morrison, 1997). The Taiwan Tourism Bureau (2007) reports 285,075 visitor arrivals in July 2007, up 5.25 percent from the 270,850 visitors in July 2006. The 2007 arrivals included 222,187 foreign visitors and 62,888 overseas Chinese. Compared with July 2006, the number of foreign visitors increased by 9,059 (4.25%), and the number of overseas Chinese visitors increased by 5,166 (8.95%). Daily tourist arrivals in July, 2007 averaged 9,196. The main purposes of visitors attending Taiwan are categorized as pleasure, business, relative visits, conference attendance, and study. Pleasure purposes (39.55 percent) and business purposes (27.18 percent) accounted for the majority of visitor arrivals during the 2007 high season (Taiwan Tourism Bureau, 2007).

In order to provide the growing number of tourists with a wide choice of hotel accommodation, Pine, Zhang and Qi (2000) recommend that Taiwan and international hotel investors should actively seek investment opportunities to increase the room supply by building new five-star hotels, especially in the gateway cities and top tourism destinations in Taiwan.

In response to the rapid growth in the hotel industry, the Taiwan Tourism Bureau also announced a revised hotel rating system in December 2002 to provide consumers with a reference for Taiwan hotel selection (Su & Sun, 2007). The Taiwan hotel classification system consists of two groups: international tourist hotels and ordinary tourist hotels (Chen, 2007a). Four- and five-star hotels are categorized as international tourist classes, whereas one, two and three-star hotels are categorized as ordinary tourist classes (Taipei Times, 2004). The Taiwan Hotel Rating System is up-dated every three years. International and ordinary tourist hotels are evaluated by different supervising organizations.

There has been intense price competition in the Taiwan hotel industry in recent years and the behavioral intentions of customers are playing an increasingly important role in determining hotels' profits (Kang, Okamoto, & Donovan, 2004; Chou, 2003; Yang, 2001). In general, customers are satisfied if they receive good service quality from hotels and their behavioral intentions are usually favorable (Kang et al., 2004). However, little empirical research has focused on the behavioral intentions of customers of the hotel industry, particularly in Taiwan's international tourist hotels (Kang et al., 2004; Chou, 2003; Lai, Ping, & Yeh, 1999). Several researchers recommend that hotel management must not neglect the importance of behavioral intentions and its related constructs: customer satisfaction, service quality, perceived

value, and image (Hu, Kandampully, & Juwaheer, 2009; Kang et al., 2004; Oh, 1999; Suhartanto, 1998).

The purpose of this study is to gain an improved understanding of customers' behavioral intentions in the Taiwan hotel sector. This study identifies the dimensions of service quality as perceived by hotel customers. The interrelationships between customers' overall behavioral intentions and the other higher order constructs: customer satisfaction, service quality, perceived value, and image are empirically tested. In addition, the study determines if perceived value plays a moderating role between service quality and customer satisfaction. The least and most important service quality dimensions as perceived by customers are identified. Finally, the behavioral intentions of customers are compared using demographic characteristics such as age, gender and income.

2. Behavioral intentions

In general, behavioral intentions are associated with customer retention and customer loyalty (Alexandris, Dimitriadis, & Markata, 2002). Several researchers note that behavioral intentions are indications whether hotel customers will remain with or defect from an organization (Alexandris et al. 2002, Zeithaml, Berry, & Parasuraman, 1996). Fishbein & Ajzen (1975) defined behavioral intentions as "a measure of the strength of one's intention to perform a specific behavior" (p. 288). Favorable behavioral intentions are associated with a service providers' ability to make its customers: say positive things about them (Boulding, Kalra, Staelin, & Zeithaml, 1993), recommend them to other customers (Parasuraman, Zeithaml, & Berry, 1991, 1988), remain loyal to them (Rust & Zahorik, 1993), spend more with the organization (Lin & Hsieh, 2007) and pay price premiums (Lin & Hsieh, 2007). Conversely, Lobo, Maritz, & Mehta (2007) indicate that unfavorable behavioral intentions include customer switching behavior and complaint behavior.

Behavioral intentions can predict actual customer behavior when behavioral intentions are appropriately measured (Ajzen & Fishbein 1980). Several studies have focused on the assessment and measurement of behavioral intentions in the tourism industry (Chen & Tsai, 2007; González, Comesaña, & Brea, 2007; Lee, Graefe, & Burns, 2004). Alexandris et al. (2002) explain that an understanding of the reasons why customers stay in hotels and identifying the factors that influence their behavioral intentions of choosing a particular hotel are beneficial to hospitality planning and marketing. However, researchers note that few empirical studies have focused on the behavioral intentions construct in the hotel industry (Hu et al., 2009; Kandampully & Suhartanto, 2000).

1.1. Customer satisfaction. Hu et al. (2009) define customer satisfaction as "a cognitive or affective reaction that emerges in response to a single or prolonged set of service encounters" (p. 115). Several studies support the view that customer satisfaction is linked to profits and stress the importance of this construct to the success of organizations in the hotel, catering and tourism sectors (Pizam & Ellis, 1999; Legoherel, 1998; Barsky & Labagh, 1992). Su (2004) argues that the biggest contemporary challenge for hotel management is to increase or maintain customer satisfaction. Juwaheer (2004) explains that customer satisfaction may be a good predictor of customers' willingness to return to and recommend a hotel to other people.

1.2. Perceived value. Zeithaml (1988) defined perceived value as "the customer's overall assessment of the utility of a product based on perceptions of what is received and what is given" (p. 14). In addition, Zeithaml (1988) recommends that perceived value is assessed through the perceived utility or worth resulting from the trade-off of "get" versus "give-up." Nasution and Mavondo (2008) demonstrate that perceived value is what customers sacrifice, generally measured in price or time. Parasuraman (1997) identifies perceived value as one of the most important constructs for an organization seeking to gain a competitive edge.

Several researchers recognize a lack of interest in understanding and measuring perceived value, considered as an old and endemic concept of customer behavior (Holbrook, 1999; Jensen, 1996; Zeithaml, 1988). Oh & Parks (1997) point out that the perceived value construct has not attracted sufficient conceptual and empirical studies in the hospitality literature.

1.3. Image. Keller (1993) refers to image as perceptions of an organization reflected in the associations held in customers' memories. Barich and Kotler (1991) identify image as the overall impression left in the minds of the public that is associated with an organization. Zeithaml and Bitner (1996) identify image as the ability to influence customer perceptions of the services offered by an organization. Although image is important to a service organization, few empirical hotel studies focus on the role image plays in the behavioral intentions of customers (Hu et al., 2009; Kandampully & Hu, 2007; Kandampully & Suhartanto, 2003). Further, Nguyen and LeBlanc

(1998) note that the existing studies on hotel management that focus on image are scarce.

1.4. Conceptualization and measurement of service quality. Several well documented studies have recently conceptualized service quality and developed corresponding models in order to create a deeper insight into the construct (Brady & Cronin, 2001; Dabholkar, Thorpe, & Rentz, 1996). Service quality is now widely regarded as being a multi-dimensional construct and hierarchical in nature (Caro & García, 2008, 2007; Clemes, Gan, & Kao, 2007; Dagger, Sweeny, & Johnson, 2007).

Several researchers maintain that service quality is more appropriately conceptualized as a formative construct rather than a reflective construct where the direction of causality is from the dimensions to the construct (Parasuraman, Zeithaml, & Malhotra, 2005; Jarvis, MacKenzie & Podsakoff, 2003; Rossiter, 2002). Diamantopoulos (2008), Clemes et al. (2007) and Dagger et al. (2007) indicate that changes in the dimensions cause a variation in the service quality construct. Thus, the dimensions form or determine the service quality construct (Clemes et al., 2007; Dagger et al., 2007; Brady & Cronin, 2001). In a reflective measurement, dimensions are seen as reflective indicators of their higher order construct (Coltman, Devinney, Midgley, & Venaik, 2008).

Dagger et al. (2007) propose that modelling service quality as a formative construct through a multi-level model rather than using the reflective method highlights the influences of dimensions on the service quality construct. Diamantopoulos (2006) finds that modeling the service quality construct using a formative measurement results in a better specification of the construct. However, a hierarchical model of service quality as a formative construct has not been developed in an applied framework to identify the primary and sub-dimensions of hotel service quality, and to analyze the relationships between the primary and sub-dimensions and service quality (Wilkins, Merrilees, & Herington, 2007).

2. Research model and hypotheses development

This study uses a hierarchical structure as a framework to develop the conceptual model (see Figure 1). The hierarchical model implies that hotel customers form perceptions about each of the twelve sub-dimensions and then form perceptions of the three pertaining primary dimensions: interaction quality, physical environment quality and outcome quality, in order to form overall service quality perceptions. Hotel customers' perceptions of service quality influences perceived value, image and customer satisfaction, and image and customer satisfaction influence behavioral intentions. Further, perceived value moderates the relationship between service quality and customer satisfaction, and perceived value positively influences customer satisfaction.

Grönroos (1992) and LeBlanc (1992) discuss the importance of interaction quality in the delivery of services and identify interactions as having the most significant effect on service quality perceptions. The quality of personal interactions between customers and employees in a service organization is a critical component of service quality evaluation and is an important factor that affects customers' assessment of service quality (Caro & García, 2008, 2007; Brady and Cronin, 2001) and their selection of overnight accommodation (Knutson, 1988).

The literature identifies the following sub-dimension as components of interaction quality: attitude (Caro & García, 2008, 2007; Lam, Cho, & Qu, 2007); behavior (Ko & Pastore, 2005; Clemes, Ozanne, & Laurensen, 2001); expertise (Kim & Cha, 2002; Brady & Cronin, 2001); problem-solving (Caro & Roemer, 2006; Dabholkar et al., 1996); and customer interaction (Venkat, 2008; Wu, 2007). Higher perceptions of these sub-dimensions are expected to positively influence interaction quality. The following hypothesis is proposed:

H1: Higher perceptions of each interaction quality sub-dimension (H1a, H1b, H1c, H1d, and H1e) will positively affect interaction quality.

Several studies illustrate that physical environment quality is an important component of service assessment (Caro & García, 2008, 2007; Clemes et al., 2007; Dagger et al., 2007). Bitner (1992) explains that the surrounding service environment has a large influence on the perceptions of the overall quality of a service encounter. Tyra and Hilliard (2008) propose that customers evaluate services through tangible physical surroundings (e.g., décor, ambience and location) in the hotel industry.

The literature identifies the following sub-dimensions as components of physical environment quality: décor (Wu & Weber, 2005), ambience (Kim & Moon, 2009, Heide, Laerdal, & Gronhaug, 2007), location (Chou, Hsu, & Chen, 2008; Ekinci & Riley, 2001), cleanliness (Gu & Ryan, 2008; Lockyer, 2003, 2002), room quality (Choi & Chu, 2001; Min & Min, 1997), design (Bonn & Joseph-Mathews, 2007; Ko & Pastore, 2005), food & beverage (Lee, 2007; Weng & Wang, 2006), and security & safety (Clemes, Gan, Kao, & Choong, 2008; Enz & Taylor, 2002). Higher perceptions of these sub-dimensions are expected to positively influence physical environment quality. The following hypothesis is proposed:

H2: Higher perceptions of each physical environment quality sub-dimension (H2a, H2b, H2c, H2d, H2e, H2f, H2g, and H2h) will positively affect physical environment quality.

Marketing researchers demonstrate that the outcome of the service encounter affects customer perceptions of service quality (Carman, 2000; Rust & Oliver 1994; Grönroos, 1990, 1984). Powpaka (1996) noted that outcome quality was a determinant of customers' overall assessments of service quality. There is consensus in the literature that the technical outcome quality of a service encounter influences customer' perceptions of service quality (Carman, 2000; Rust & Oliver, 1994).

The literature identifies the following sub-dimensions of outcome quality: sociability (Bonn & Joseph-Mathews, 2007; Clemes et al., 2007); valence (Caro & García, 2008; Brady, Voorhees, Cronin, & Bourdeau, 2006;); and waiting time (Caro & García, 2008, 2007; Dagger et al., 2007). Higher perceptions of these sub-dimensions are expected to positively affect outcome quality. The following hypothesis is proposed:

H3: Higher perceptions of each outcome quality sub-dimension (H3a, H3b, and H3c) will positively affect outcome quality.

Brady and Cronin (2001) maintain that overall perceived service quality is affected by three primary dimensions: interaction quality, physical environment quality and outcome quality. The following hypotheses have been formulated to test the influences of these three primary dimensions on overall perceived service quality.

H4: Higher perceptions of the quality of service interactions will positively affect overall service quality perceptions.

H5: Higher perceptions of the quality of the physical environment will positively affect overall service quality perceptions.

H6: Higher perceptions of the quality of service outcomes will positively affect overall service quality perceptions.

Caruana, Money and Berthon (2000) point out that perceived value may moderate the relationship between service quality and customer satisfaction. Oh (1999) proposes that perceived value, together with service quality, may moderate the perceptions of customer satisfaction in the hotel industry. The following hypothesis tests if perceived value plays a moderating role between service quality and customer satisfaction.

H7: Perceived value will moderate the relationship between service quality and customer satisfaction.

Several studies have focused on the concept of service quality recognizing that perceived value has played a key role in customers' overall assessments of service quality (Cronin & Taylor, 1992; Bolton & Drew, 1991). Oh (1999) emphasized that customers perceived greater value for money when experiencing a high level of service quality in the hotel industry. Increased value perceptions then resulted in customer satisfaction. However, Oh (1999) commented that the hotel literature on the relationship between perceived value, service quality and customer satisfaction was scarce. The following hypotheses are proposed for perceived value's relationship with service quality and customer satisfaction.

H8: Higher perceptions of overall service quality will have a positive impact on perceived value.

H9: Higher perceptions of value will have a positive impact on customer satisfaction.

Several studies identify image as an important factor in customers' overall evaluations of the service and the organization (Park, Robertson & Wu, 2006; Baker, Grewal & Parasuraman, 1994). Aydin & Ozer (2005) and Schlosser (1998) consider that customer perceptions of service quality directly affect image. Several researchers note that limited research in the hotel industry has focused on the relationship between image, service quality and customer satisfaction (Ryu, Han & Kim, 2008; Claver, Tari & Pereira, 2006). The following hypotheses are proposed:

H10: Higher perceptions of service quality will have a positive influence on image.

H11: Higher perceptions of image will have a positive influence on customer satisfaction.

Several studies determine that a strong image positively affects behavioral intentions in different service industries (Kaplanidou & Vogt, 2007; Chang, 2006; Park et al., 2006). However, researchers note that only a few studies on hotels have focused on the effect of image on behavioral intentions (Hu et al., 2009; Kim & Kim, 2005). The following hypotheses are proposed:

H12: Higher perceptions of a hotel's image will positively affect the intentions to return to the hotel in the future.

The relationship between service quality and customer satisfaction is examined in several marketing studies (Shi & Su, 2007; Johnston, 2004, 1995; Getty & Getty, 2003). Researchers also report an empirical association between customer satisfaction and outcomes such as loyalty, positive word-of-mouth and purchase intentions (Anderson & Sullivan, 1993; Oliver &

Swan, 1989). However, Kang et al. (2004) indicate that only limited hotel studies focus on the exact relationship between customer satisfaction and behavioral intentions. The following hypotheses are proposed:

H13: Higher perceptions of overall hotel service quality will positively affect customers' overall satisfaction.

H14: Higher levels of customer satisfaction will positively affect the intention to return to a hotel in the future.

Although several studies measure customers' experiences in the hotel industry (Shi & Su, 2007; Choi & Chu, 2001), the comparative importance of the service quality dimensions is not well defined. Clemes et al. (2008) suggest that more studies should focus on the most and least important dimensions of service quality. The following hypothesis is proposed:

H15: Hotel customers will vary in their perceptions of the importance of (a) each of the primary dimensions and (b) each of the sub-dimensions.

Several researchers argue that hotel managers should pay more attention to demographic factors as they provide a biographical sketch that suggests how age, gender and income are likely to influence customer perceptions of behavioral intentions. Demographic factors also provide insights into the constructs related to behavioral intentions: satisfaction, service quality, perceived value, image, and the primary and sub-dimensions of service quality (Al-Sabbahy & Ekinci, 2004; Kim & Kim, 2004; Shergill & Sun, 2004). The following hypothesis is proposed:

H16: Customers' demographic characteristics (gender, marital status, age, level of education, income, purpose of travel, ethnic background, and occupation) will result in perceptual differences in (a) customer perceptions of behavioral intentions and influential factors, satisfaction, service quality, perceived value and image; (b) customer perceptions of the primary dimensions of service quality, and (c) customer perceptions of the sub-dimensions of service quality.

3. Research design and methodology

Three mini focus group interviews were conducted following Greenbaum's (1998) guidelines. Each group comprised six participants who had stayed in Taiwanese five-star hotels. The domain of the construct was specified to the interviewees at the start of the focus group interviews, as suggested by Churchill (1979). During the interview process, group members were encouraged to list all of the factors that might comprise their perceptions of the interaction quality, physical environment quality and outcome quality primary dimensions. In addition, the participants were asked to consider the most important factors that made-up each of the three primary dimensions.

A survey questionnaire was distributed to accommodation customers aged 18 years and older. The data were collected at a five-star hotel in Kaohsiung City of Taiwan between 15 February and 15 April, 2008. The questionnaire was in two versions, English and Chinese, to enable foreign and Taiwanese customers to understand the content of the survey. All items used in the questionnaires were inspected by two academics in hospitality and two expert practitioners in the hotel industry to ensure that the items were an adequate, and a thorough representation, of the constructs under investigation. Both versions of the questionnaire were pre-tested. Thirty-five English speaking and 35 Taiwanese people who had previously stayed in five-star Taiwan hotel completed the pre-test questionnaires. The respondents were encouraged to comment on any questions or statements that they thought were ambiguous or unclear. In order to ensure confidentiality and anonymity, each customer returned their completed questionnaire to the drop box at the front-desk reception.

Seven hundred and thirty questionnaires were 72stributed and 613 questionnaires were returned. Thirty three of the returned questionnaires were incomplete or were unsuitable for use in this study resulting in 580 usable responses. Table 1 presents the descriptive results of respondents' demographic factors.

Table 1. Descriptive statistics – gender, marital status, age, level of education, average annual income, main purpose of travel, ethnicity, occupation

	Frequency	Percentage
Gender		
Male	282	48.6
Female	298	51.4
Total	580	100.0
Marital status		
Single	312	53.8

Table 1. (cont.). Descriptive statistics – gender, marital status, age, level of education, average annual income, main purpose of travel, ethnicity, occupation

	Frequency	Percentage
Married	236	40.7
Divorced/Separated	10	1.7
Living with a partner	19	3.3
Widowed	3	0.5
Total	580	100.0
Age		
18-25	80	13.8
26-35	265	45.7
36-45	138	23.8
46-55	66	11.4
56-65	30	5.2
66+	1	0.2
Total	580	100.0
Level of education		
Secondary school or below	5	0.9
High school	58	10.0
Junior college	81	14.0
College or university	336	57.9
Graduate school or above	100	17.2
Total	580	100.0
Average annual income		
TW$0-TW$200,000	53	9.1
TW$200,001-TW$300,000	42	7.2
TW$300,001-TW$400,000	66	11.4
TW$400,001-TW$500,000	86	14.8
TW$500,001-TW$600,000	117	20.2
TW$600,001-TW$700,000	79	13.6
TW$700,001-TW$800,000	54	9.3
TW$800,001+	83	14.3
Total	580	100.0
Main purpose of trip		
Pleasure	460	79.3
Business	51	8.8
Visiting relatives	23	4.0
Conference	5	0.9
Study	18	3.1
Other	23	4.0
Total	580	100.0
Ethnicity		
Asian	488	84.1
North American	41	7.1
Central American	9	1.6
South American	5	0.9
European	25	4.3
African	3	0.5
Australian	6	1.0
New Zealand	2	0.3
Other	1	0.2
Total	580	100.0
Occupation		
Student	12	2.1
Professional	96	16.6
Manager	82	14.1
Government employee	63	10.9
Employee of a company	194	33.4
Housewife	22	3.8
Soldier	7	1.2
Labor	2	0.3
Farmer	4	0.7
Self-employed	9	1.6
Retired	12	2.1
Unemployed	10	1.7
Other	67	11.6
Total	580	100.0

The mean scores for the sum of sub-dimensions, the service quality items, the perceived value items, the image items, the customer satisfaction items, and the behavioral intentions items for the 300 respondents who replied in the first month were compared with the mean scores of the 280 respondents who replied in the second month using the extrapolation method (Armstrong & Overton, 1977). Independent t-tests

indicated that two groups showed equal variances and equal means. Therefore, no early/late response bias was found.

In this study, most of the missing items were under 1% and only six items had missing data greater than 1%. In addition, the p-value (0.000) for the missing items was less than the 5% level of significance, indicating that these missing values were missing at random (MAR) rather than missing completely at random (MCAR). The missing values were imputed with the estimated means based on the Maximum Likelihood Estimation (MLE) method under the normality assumption (Garson, 2007).

The VARIMAX orthogonal rotation method was used in the analysis. The outcome of the factor analysis resulted in 49 variables representing 12 factors. Further, latent root and scree test criteria determined the 12 underlying sub-dimensions of service quality, explained 72.02% of the variation in the data. The 12 sub-dimensions were renamed: (1) Employees' Conduct; (2) Employees' Expertise; (3) Employees' Problem-Solving; (4) Customer-to-Customer Interaction; (5) Décor & Ambience; (6) Room Quality; (7) Availability of Facility; (8) Design; (9) Location; (10) Valence; (11) Waiting Time and (12) Sociability.

The sample was split into two halves to confirm if the extracted sub-dimensions could be used in the regression analysis and avoid potential estimation problems (e.g., multi-collinearity). The two samples revealed similar factor loading, communalities, eigenvalues, explained variance, and Cronbach's Coefficient Alphas. Therefore, the 12 sub-dimensions of service quality were deemed suitable for use in the regression analysis.

These 12 sub-dimensions were tested for reliability. The Cronbach's Coefficient Alpha values for the items ranged from 0.748 to 0.938, all above 0.60, as suggested by Churchill (1979) for exploratory research. The Cronbach's Coefficient Alpha was also used to measure the reliability of the multi-item constructs: service quality (0.946), perceived value (0.848), image (0.914), customer satisfaction (0.949), and behavioral intentions (0.942). The items were then summated using their mean scores to represent their pertaining constructs. The Cronbach's Coefficient Alpha values of the items are listed in Tables 2 and 3.

Ordinary least squares (OLS) regression was applied to analyze each path in the conceptual model. Analysis of variance (ANOVA) was used to examine if the behavioral intentions, customer satisfaction, service quality, perceived value, image constructs, and the sub-dimensions of service quality were perceived differently based on customers' demographic characteristics. A series of statistical assumption tests were assessed for each of the nine regression models prior to the analysis in order to ensure a robust result. The results of the variation inflation factors and condition indices indicated an absence of multi-collinearity. Visual examination of the residual scatter plots and histogram residual plots ensured that the linearity, normality of the error term distribution, and homoscedasticity of the error terms assumptions were met. Lastly, the Durbin-Watson ensured that the independence of the error terms was met.

4. Empirical results

The 12 sub-dimensions and their pertaining primary dimensions are listed in Table 4 of the Appendix. The four sub-dimensions pertaining to interaction quality are employees' conduct, employees' problem-solving, employees' expertise, and customer-to-customer interaction. The five sub-dimensions pertaining to physical environment quality are décor & ambience, room quality, availability of facility, design, and location. The three sub-dimensions pertaining to outcome quality are valence, waiting time, and sociability. The summated, scaled sub-dimensions were regressed against their pertaining primary dimensions.

The results of the hypotheses tests are presented in Table 4. Regression Model One analyzes Hypothesis 1. Hypothesis 1 tests the relationship between interaction quality and its pertaining sub-dimensions. The F statistic 127.892 at the 1% level of significance, indicating that the identified sub--dimensions are related to interaction quality. The t-tests are significant for Employees' Conduct (β=0.618, $p < 0.01$), Employees' Expertise (β=0.067, $p < 0.05$), and Employees' Problem-solving (β=0.110, $p < 0.01$). However, the t-test for Customer-to-customer interaction (β=0.022, $p > 0.10$) is not significant. The adjusted coefficient of determination reveals that these sub-dimensions explain 46.7% of the variation in Interaction Quality.

Regression Model Two analyzes Hypothesis 2. Hypothesis 2 tests the relationship between Physical Environment Quality and its pertaining sub-dimensions. The F statistic is 60.663 at the 1% level of significance, indicating that the identified sub-dimensions are related to Physical Environment Quality. The t-tests are significant for Décor & Ambience (β=0.244, $p < 0.01$),

Room Quality (β=0.183, p < 0.01), Availability of Facility (β=0.200, p < 0.01), Design (β=0.166, p < 0.01), and Location (β=0.077, p < 0.05). The adjusted coefficient of determination revealed that these sub-dimensions explain 34.0% of the variation in Physical Environment Quality.

Regression Model Three analyzes Hypothesis 3. Hypothesis 3 tests the relationship between Outcome Quality and its pertaining sub-dimensions. The F statistic is 75.328 at the 1% level of significance, indicating that the identified sub-dimensions are related to outcome quality. The t-tests are significant for Valence (β=0.429, p < 0.01) and Waiting Time (β=0.147, p < 0.01). However, the t-test for Sociability (β=0.060, p > 0.10) is not significant. The adjusted coefficient of determination reveals that these sub-dimensions explain 27.8% of the variation in Interaction Quality.

Regression Model Four analyzes Hypotheses 4, 5 and 6. The relationships between Service Quality, Interaction Quality, Physical Environment Quality, and Outcome Quality are examined. The F statistic is 169.665 at the 1% level of significance, indicating that the three primary dimensions are related to Service Quality. The t-tests are significant for Interaction Quality (β=0.287, p < 0.01), Physical Environment Quality (β=0.136, p < 0.01), and Outcome Quality (β=0.405, p < 0.01). The adjusted coefficient of determination reveals that these independent variables explain 46.9% of the variation in Service Quality.

Regression Model Five analyzes Hypothesis 7. The relationship between Service Quality and Customer Satisfaction moderated by Perceived Value is examined. In step one, the F statistic (417.363) is significant at the 1% level of significance, indicating that Service Quality and Perceived Value are related to Customer Satisfaction. The adjusted coefficient of determination reveals that these independent variables explain 59.0% of the variation in Customer Satisfaction. In step two, the F statistic (796.252) is significant at the 1% level of significance, indicating that the interaction term (Service Quality x Perceived Value) is related to Customer Satisfaction. The adjusted coefficient of determination reveals that the independent variable (Service Quality) and the moderating variable (Perceived Value) explain 57.9% of the variation in Customer Satisfaction.

Regression Model Six analyzes Hypothesis 8. The relationship between Perceived Value and Service Quality is examined. The F statistic (621.529) is significant at the 1% level of significance, indicating that Perceived Value is related to Service Quality. The t-test is significant for Service Quality (β=0.720, p < 0.01). The adjusted coefficient of determination shows that the independent variable Service Quality explains 51.7% of the variation in Perceived Value.

Regression Model Seven analyzes Hypothesis 10. The relationship between Image and Service Quality is examined. The F statistic (544.724) is at the 1% level of significance, indicating that Image and Service Quality are related. The t-test is significant for Service Quality (β=0.697, p < 0.01). The adjusted coefficient of determination reveals that the independent variable, Service Quality, explains 48.4% of the variation in Image.

Regression Model Eight analyzes Hypotheses 9, 11 and 13. The relationships between Customer Satisfaction, Perceived Value, Image, and Service Quality are examined. The F statistic (296.002) is at the 1% level of significance, indicating that Perceived Value, Image, and Service Quality are related to Customer Satisfaction. The t-tests are significant for Perceived Value (β=0.420, p < 0.01), Image (β=0.186, p < 0.01), and Service Quality (β=0.257, p < 0.01). The adjusted coefficient of determination reveals that these independent variables explain 60.5% of the variation in Customer Satisfaction.

Regression Model Nine analyzes Hypotheses 12 and 14. The relationships between Behavioral Intentions, Image, and Customer Satisfaction are examined. The F statistic (552.498) is at the 1% level of significance, indicating that Image and Customer Satisfaction are related to Behavioral Intentions. The t-tests are significant for Image (β=0.351, p < 0.01) and Customer Satisfaction (β=0.536, p < 0.01). The adjusted coefficient of determination reveals that these independent variables explain 65.6% of the variation in Behavioral Intentions.

Hypothesis 15 postulates that customers perceive that the three primary dimensions and pertaining sub-dimensions vary in importance. Hypothesis 15 is supported by the statistical results. The most important primary dimension perceived by customers is Outcome Quality (β=0.405), followed by Interaction Quality (β=0.287) and Physical Environment Quality (β=0.136). The derived importance of the sub-dimensions are summarised in Figure 2, which lists all of the standardized beta coefficients for the nine models.

Hypothesis 16 examines the mean differences of the constructs under investigation with regards to eight demographic groups; gender, marital status, age, level of education, annual income, purpose of travel, ethnic background, and occupation. One crucial assumption for a reliable analysis is that the groups being compared must be of a similar sample size. The groups, gender, marital status, age, level of education, annual income, purpose of travel, ethnic background, and occupation have a similar sample size. However, the age, level of education, annual income, and ethnic background have disproportionate sample sizes. Therefore, in order to obtain reliable statistical results, the age groups were combined into four groups, 18 to 25 Years, 26 to 35 Years, 36 to 45 Years, and 46 Years and Over. The educational level groups were combined into three groups: Junior College and Under, College or University, and Graduate School and Over. The annual income groups were combined into two groups, TW$500,000 and under, and TW$500,001 and over. Finally, the ethnic background groups were combined into two groups, Asian and Western.

There were mean perceptual differences of Service Quality, Décor & Ambience, and Room Quality (all at the 0.01 level) between Males and Females. There was a mean perceptual difference of Room Quality (0.05 level) among customers with different marital statuses. The Age Group had perceptual differences of Outcome Quality, Employees' Conduct, Employees' Expertise, Valence (all at the 0.1 level) and Room Quality (0.05 level). There were mean differences in Outcome Quality (0.1 level), Design (0.05 level), and Sociability (0.1 level) within the levels of the Education Group. There were several perceptual differences between the Annual Income Groups (TW$500,000 and under, and TW$500,001 and over). These include Employees' Problem-solving, Décor & Ambience, Room Quality, Availability of Facility, and Valence (all at the 0.1 level). The Purpose of Travel Group had perceptual differences of Service Quality (0.1 level), Customer Satisfaction (0.05 level), Décor & Ambience and Valence (both at the 0.01 level), Availability of Facility and Sociability (both at the 0.05 level). There were several perceptual differences of Outcome Quality, Customer-to-Customer Interaction, Décor & Ambience, Valence (all at the 0.1 level), and Sociability (0.05 level) between Asian and Western customers. Finally, there are several perceptual defferences within the Occupation Group. These are: Service Quality (0.05 level), Employees' Problem-solving, Customer-to-Customer Interaction (0.01 level), Room Quality (0.01 level), Valence (all the 1% level), Design and Location (both at the 0.05 level).

5. Discussion

The results for Hypotheses 1 through 6 support a multi-level factor structure for service quality (Brady & Cronnin, 2001; Dabholkar et al., 1996) for the hotel industry. Hypotheses 1 through 3 support the presence of 12 sub-dimensions of service quality as perceived by hotel customers. Hypotheses 4 through 6 provide further evidence for the use of interaction quality, physical environment quality, and outcome quality as primary dimensions of service quality in the context of the hotel industry. However, the five sub-dimensions and 3 sub-dimensions accounted for only a small amount of variation in Physical Environment Quality (R^2=34.0%) and Outcome Quality (R^2=27.8%), respectively. These results imply that there are sub-dimensions of Physical Environment Quality and Outcome Quality that have not been identified in this study. However, Bruhn, Georgi and Hadwich (2008) propose that R^2 values of at least 26% represent large effect sizes in a multiple regression. In this study, all of the R^2 values in the regression models are greater than 26%.

The statistical analyzes indicate that Outcome Quality (β=0.405) has a stronger effect on Service Quality than Interaction Quality (β=0.287) and Physical Environment Quality (β=0.136). This finding coincides with the viewpoint that the outcome of the service encounter significantly affects customer perceptions of service quality (Carman, 2000; Powpaka, 1996).

The statistical results reveal that Interaction Quality has less effect on Service Quality than Outcome Quality. However, Interaction Quality positively affects overall service quality perceptions. This result agrees with the findings of several studies (Martinez & Martinez, 2007; Ko & Pastore, 2005) that interaction quality plays an important role in customer evaluations of service quality, even though outcome quality is a key manifestation of perceived quality. Furthermore, this finding supports Caro & García's (2008) and Collins's (2005) results that Interaction Quality has less impact on Service Quality than Outcome Quality. In addition, this result agrees with the findings of other researchers (Bigné, Martínez, Miquel, & Belloch, 1996; LeBlanc, 1992) who illustrated that interaction quality is important in the service delivery process, and that interaction quality has a significant effect on service quality perceptions.

Physical Environment Quality, while important, has the least influential effect on Service Quality. This finding supports Nankervis (1995) who identifies the physical environment as a major contact arena

for customers and service providers in the hotel industry. In addition, this finding agrees with Nguyen & LeBlanc's (2002) result that, for services management, a hotel's physical environment is one crucial element that determines the success of the service delivery process. Furthermore, this result is consistent with the finding of Ou (2002) who argues that the physical environment plays an important role in raising the level hotel service quality and this dimension should not be ignored in hotel studies.

However, the number of the service quality sub-dimensions identified in this study is not the same as the number of sub-dimensions identified by Clemes et al. (2007), Fassnacht and Koese (2006) and Collins (2005) for other service industries. This difference supports the contention of earlier studies (van Dyke, Kappelman, & Prybutok, 1997) that identified different factor structures across the service industries. The different sub-dimensional factor structure identified in this study supports the view that the dimensionality of the service quality construct depends on the service industry under investigation. The results also add support to the claims that industry- and cultural-specific measures of service quality are required to identify different dimensional structures (Clemes et al., 2007, 2001; Kang, 2006).

The statistical analysis shows that Perceived Value positively moderates the relationship between Service Quality and Customer Satisfaction. This finding concurs with the results of several researchers (Gil, Berenguer, & Cervera, 2008; Lin, 2007; Gallarza & Saura, 2006) that the influence of service quality on customer satisfaction is not just direct but is also moderated by perceived value. In addition, the beta coefficient (β=0.761) indicates that the moderating effect of Perceived Value on Service Quality and Customer Satisfaction is important in the hotel industry. This result also supports the finding of Cronin & Taylor (1992) that marketers need to focus on perceived value as an important determinant of enhancing the predictive power of service quality.

Hypothesis 8 proposing a positive effect of Service Quality on Perceived Value is confirmed. This result supports Hartline & Jones (1996), who determine that the service performance of front-line employees has a significant influence on the overall perceptions of value. In addition, this finding agrees with the contentions of Chen, (2007b) and Sweeney, Soutar, & Johnson, (1997) that identify service quality as an important indicator of perceived value.

Hypothesis 10 proposing that Service Quality positively influences Image is confirmed. This result supports Zeithaml's (1988) proposition that service quality is the customers' judgment about the overall excellence or superiority of a service or, in other words, the image. Furthermore, this finding is consistent with Hu et al.'s (2009) study that "customers who received high service quality during service delivery would form a Favorable image of the hotel" (pp. 120-121).

The statistical results confirm Hypothesis 9 relating to the positive influence of Perceived Value on Customer Satisfaction. This statistical result coincides with Choi & Chu's (2001) finding that perceived value appears to be a top factor in determining the overall level of customer satisfaction in the hotel industry. Likewise, this study supports other studies (Hu et al., 2009; Caruana et al., 2000) noting that customer perceptions of value have a strong impact on satisfaction.

Hypothesis 13 relating to the positive influence of Service Quality on Customer Satisfaction is confirmed. This result supports several researchers' points of view that service quality is an antecedent of customer satisfaction (Hu et al., 2009; Chen, Chen, & Hsieh, 2007; Wilkins et al., 2006). The result of this research is consistent with Su's (2004) contention that providing services that customers prefer is obviously a starting point for providing customer satisfaction in the hotel industry.

Hypothesis 11, relating to the positive effect of Image on Customer Satisfaction, is confirmed. This result supports the contention that when customers are satisfied with the services rendered, their attitudes toward the organization improve (Andreassen & Lindestad, 1998). However, the beta coefficient indicates that the importance of Image on Customer Satisfaction is less than the importance of Perceived Value and Service Quality on Customer Satisfaction. This finding is consistent with the contentions of Kim & Kim, (2005) and Kandampully & Suhartanto (2003) who identify image as a key determinant that upgrads the levels of customer satisfaction in the hotel industry.

Hypotheses 12 and 14, relating to the positive effects of Customer Satisfaction and Image on Behavioral Intentions, are confirmed. This result agrees with Hu et al. (2009), Kandampully & Suhartanto (2003, 2000) and Suhartanto (1998) who show that customer satisfaction and image are two important aspects that largely influence behavioral intentions in the hotel industry.

Although the beta coefficient indicates that Image (β=0.351) has less impact on Behavioral Intentions than Customer Satisfaction (β=0.536), Image does

have a positive effect on Behavioral Intentions. This result supports Hu et al.'s (2009), Bigné, Sánchez, & Sánchez's (2001) and Bhote's (1996) findings that image has a positive influence on ehavioral variables as well as on evaluation variables. When the overall image of an organization is improved, customers' Favorable behavioral intentions may be expressed as a desire to return to the organization or recommend the organization to others (Bigné et al., 2001).

The results of analysis of variance are summarized in Table 5. The results support Ekinci, Prokopaki, & Cobanoglu's (2003) finding, that hotel service quality is perceived differently within the gender group. However, the result does not agree with Choi & Chu's (2001) hotel study, as the authors note that the purpose of travel group exhibits no perceptual differences on the perceived value construct. In addition, the results of this study do not coincide with Skogland & Siguaw's (2004) hotel study as there are no perceptual differences of Image within the Age and Level of Education Groups. The results also differ from Solnet's (2007), Mey, Akbar & Fie's (2006) and Tsiotsou & Vasioti's (2006) hotel findings as there are no perceptual differences of Customer Satisfaction within the Gender, Age, Level of Education and Ethnic Background Groups in this study. Finally, the results differ from Skogland & Siguaw's (2004) and Wong & Keung's (2000) hotel findings, as Age, Purpose of Travel, and Ethnic Background Groups exhibited no perceptual differences of Behavioral Intentions.

Table 5. Summary of ANOVA results

	Gender	Marital status	Age	Level of education	Annual income	Purpose of travel	Ethnic background	Occupation
Service Quality	*					*		**
Perceived Value								
Image								
Customer Satisfaction						**		
Behavioral Intentions								
Interaction Quality								
Physical Environment Quality								
Outcome Quality			***	*			*	
Employees' Conduct			*					
Employees' Expertise			*		***			
Employees' Problem-Solving								*
Customer-to-Customer Interaction							*	***
Décor & Ambience	*				***	***	***	
Room Quality	***	**	**		*			***
Availability of Facility					*	**		
Design				**				**
Location								**
Valence			*		*	*	*	***
Waiting Time								***
Sociability				*		**	**	***

Notes: *** significant at 1% level; ** significant at 5% level; significant at 10% level.

The results for the primary dimensions are inconsistent with Chow et al.'s (2007) and Mattila's (2000) hospitality studies, as there are no perceptual differences of Interaction Quality within the Age Group, and there are no perceptual differences of Physical Environment Quality within the Gender and Ethnic Background Groups. However, the findings support Chan, Wan, & Sin's (2007) hotel study, as there are perceptual differences of the Outcome Quality dimension within the Ethnic Background Group.

The results for the 12 sub-dimensions differ from hotel studies for the Purpose of Travel Group; Ramsaran-Fowdar's (2007) and Knutson's (1988) Employees' Conduct; Akbaba (2006) – Employees' Expertise; Knutson (1988) – Availability of Facility; Choi & Chu (2001) Room Quality; Siguaw and Enz (1999) – Design; Akbaba (2006) – Location; and Ramsaran-Fowdar (2007) – Waiting Time. However, the results for the Purpose of Travel Group are consistent with hotel studies by McCleary, Weaver and Lan (1994) – Employee Problem Solving; Ramsaran-Fowder (2007) Décor and Ambience; Chen (2001) – Location; and Wilkins et al. (2006) – Valence. Finally, the results of this study reveal that there were perceptual differences in the Customer-to-customer Interaction and Sociability sub-dimensions within the Level of Education, Purpose of Travel, Ethnic Background, and Occupation groups. These differences are not identified in previous empirical studies on hotels.

Conclusions

The results of this study support using a multi-level structure, such as those developed by Brady & Cronin (2001) and Dabholkar et al. (1996), to conceptualize and measure hotel service quality. However, the three primary dimensions identified in this research may not pertain to service industries outside the accommodation sector. Cultural differences may also affect the number of primary dimensions. In addition, the sub-dimensions may also vary in number and kind across service industries and cultures.

Customer-to-customer Interaction and Sociability are two sub-dimensions of service quality identified in the factor analysis but are not significant in regression Models One and Three. This result may be attributed to the Asian culture as people normally do not like to have a verbal, eye, physical or even an emotional contact with someone that they do not know (McGee, 2003; Friesen, 1972).

The statistical analyses show that Perceived Value has the most influential moderating effect on the relationship between Service Quality and Customer Satisfaction (β=0.761). The positive relationship between Perceived Value, Service Quality, and Customer Satisfaction suggests that satisfaction increases after customers experience high service quality and have high perceptions of value.

This study also provides a framework for understanding the interrelationships between behavioral intentions and the other higher order constructs. The results of this study demonstrate that service quality has a direct impact on customer perceptions of value. The positive relationship between Service Quality and Perceived Value indicates that higher levels of perceived service quality make customers more willing to pay a higher price for their accommodation. In addition, the results indicate that Service Quality has a direct influence on Image. Thus, higher levels of service quality improve a hotel's image and image directly influences customer satisfaction. However, in this study Image has less influence on Customer Satisfaction than Perceived Value. The analyzes also illustrates that Service Quality influences Customer Satisfaction. This result supports service quality being an antecedent of customer satisfaction as service quality is a driver of a hotel's performance (Wilkins et al., 2006).

Customer Satisfaction and Image directly influence Behavioral Intentions. Satisfied customers form favorable behavioral intentions to revisit or return to the same hotel when they experience high levels of service quality that produce a favorable image. Although Customer Satisfaction has a stronger influence on Behavioral Intentions than Image in this study, Kandampully & Suhartanto (2000) and Suhartanto (1998) argue that hotel image and customer satisfaction are both important factors in determining behavioral intentions.

This study identifies three primary dimensions of hotel service quality and 12 sub-dimensions pertaining to the primary dimensions. Hotel management can use the multi-level model developed in this research in their strategic planning as the model provides a framework for evaluating customer perceptions of service quality. However, as the dimensions of service quality vary across industries and cultures, hotel managers should note that the primary and sub-dimensional structures must be determined for their own specific organization and cultural setting to measure accurately customer perceptions of their hotel experiences.

The results indicate that Perceived Value and Service Quality have an independent influence on Customer Satisfaction. The positive regression coefficient (β=0.761) for the interaction between Service Quality and Perceived Value illustrates that the moderating variable (Service Quality x Perceived Value) has a positive impact on Customer Satisfaction. Therefore, hotel management should be cognizant that their customers may be more satisfied with a higher level of service quality at a higher price, rather than a lower level of service quality at a lower price (Nasution & Mavondo, 2008).

The findings provide hotel management with an improved understanding of the influence of service quality on perceived value and image, the influences of perceived value, image and service quality on customer satisfaction, and the effects of image and customer satisfaction on behavioral intentions. Management needs to be aware that increasing service quality should increase their customers' perceptions of value and create Favorable impressions of the hotel. In addition, if hotel management can ensure a higher level of value, image, and service quality, the level of customer satisfaction should increase. Furthermore, higher satisfaction levels should ultimately increase customers' favorable intentions to revisit or return to the same hotel, and foster positive word-of-mouth recommendations for the hotel.

The results of this study indicate that Outcome Quality is the most important primary dimension of Service Quality in a hotel context, followed by Interaction Quality and lastly Physical Environment Quality. Management should recognize that the order of importance of the primary dimensions may vary across the different types of hotels. Hotel management that

participated in the survey should concentrate on the sub-dimensions under Outcome Quality and improve the hotel's performance on the sub-dimensions. Resources should be allocated to the sub-dimensions based on their level of importance. However, the sub-dimensions pertaining to Interaction Quality and Physical Environment Quality should also be resourced, as customers' overall perceptions of hotel service quality are also influenced by employee/customer relationships, and the relationship between the service environment and customers.

The findings relating to customers' demographic factor indicate that hotel management should be aware of the presence of perceptual differences between customer segments. For example, hotel management may want to adjust service strategies to cater more for Western and business customers, or to retain a current strategy that offers Asian and leisure styles of accommodation, and encourage Western and business customers to adjust to the Asian accommodation environment.

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Appendix

Table 2. Reliability of scaled items for sub-dimensions

Sub-dimension	Cronbach's alpha	Items	Rotation loading
Employees' Conduct	0.915	Employees' service provision Employees' willingness to help customers Employees allow customers to trust their services Employees' understanding of customer needs Dependability of friendly employees	0.659 0.645 0.594 0.578 0.547
Employees' Problem-Solving	0.878	Employees showing a sincere interest in solving problems Employees being able to handle customer complaints Employees' understanding of resolving customer complaints	0.865 0.852 0.833
Employees' Expertise	0.910	Dependability of employees knowing their jobs/responsibilities Competent employees Employees' professional knowledge to meet customer needs	0.908 0.879 0.742
Customer-to-Customer Interaction	0.748	Impressions of the other customers' behavior The rules and regulations followed by customers The positive impact of interaction with other customers	0.803 0.787 0.786
Décor & Ambience	0.900	The style of décor is to the customers' liking Excellent ambience Stylish and attractive décor The enjoyment of atmosphere Décor showing a great deal of thought and style The atmosphere is what customers expect	0.846 0.793 0.786 0.782 0.723 0.682
Room Quality	0.938	Clean bathroom and toilet Clean room Quiet room Adequate room size Comfortable bed/mattress/pillow High quality of in-room temperature control	0.830 0.823 0.816 0.815 0.800 0.788
Availability of Facility	0.896	Availability of noticeable sprinkler systems Availability of secure safes Accessibility of fire exits Availability of high quality food & beverage Sanitary, adequate and sufficient food & beverage served Availability of a variety of food & beverage facilities	0.799 0.765 0.761 0.741 0.722 0.669
Design	0.828	The layout makes it easy for customers to move around The layout serves customer purposes/needs Aesthetical attractiveness	0.784 0.756 0.743
Location	0.773	Convenient location for retail stores Convenient location for dining-out facilities Convenient parking spaces availability	0.827 0.820 0.636

Table 2 (cont.). Reliability of scaled items for sub-dimensions

Sub-dimension	Cronbach's alpha	Items	Rotation loading
Valence	0.902	When leaving, customers had got what they wanted Favorable evaluation of the outcome of services Customers have had good experiences at the end of their stay	0.870 0.856 0.640
Waiting Time	0.888	Employees' understanding of the importance of waiting time Employees' punctual provision of service Employees try to minimise customer waiting time Reasonable waiting time for service Employees' ability to answer customer questions quickly	0.853 0.766 0.736 0.700 0.552
Sociability	0.793	Provision of opportunities for social interaction A sense of belonging with other customers Social contacts	0.845 0.790 0.773

Table 3. Reliability of scaled items for behavioral intentions and related constructs

Construct	Cronbach's alpha	Items
Service Quality	0.946	The overall quality of services
		Provision of high quality services
		Comparison of service quality
Perceived Value	0.848	The value of hotel experience
		The minimum of waiting time
		The high value for its price
Image	0.914	Good impression
		A better image than that of competitors
		A good image in the minds of customers
Customer Satisfaction	0.949	To make a right choice by staying at the hotel
		To satisfy customer needs and wants
		Satisfaction with hotel stay
		Pleasant experience
Behavioral Intentions	0.942	Customers always say positive things about the hotel to other people
		Likelihood of coming back to the hotel again
		To consider the hotel as the first one on the list when searching for accommodations
		To recommend the hotel to other people

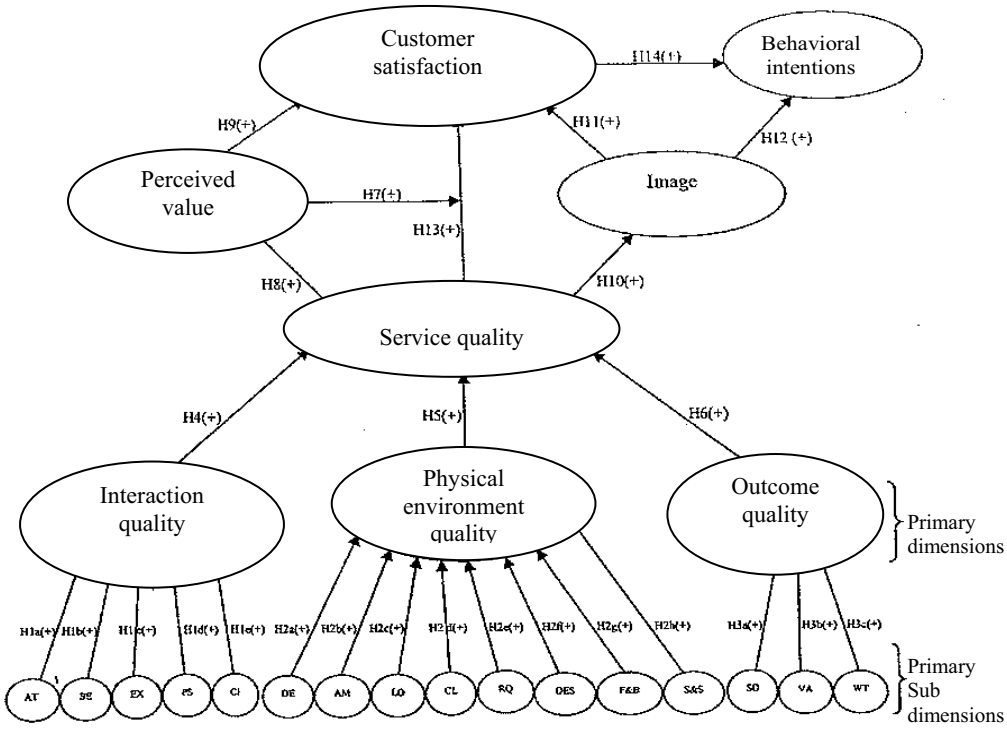
Table 4. Summary of regression models

Model	Dependent variable	Independent variable (s)	Adjusted R^2	F Value	Standardized β coefficients	t value
1	Interaction Quality	Employees' Conduct Employees' Expertise Employees' Problem-Solving Customer-to-Customer Interaction	0.467	127.892***	0.618 0.067 0.110 0.022	17.759*** 1.992** 3.422*** 0.702
2	Physical environment Quality	Décor & Ambience Room Quality Availability of Facility Design Location	0.340	60.663***	0.244 0.183 0.200 0.166 0.077	6.054*** 5.062*** 4.842*** 4.098*** 2.028**
3	Outcome Quality	Valence Waiting Time Sociability	0.278	75.328***	0.429 0.147 0.060	10.578*** 3.763*** 1.607
	Service Quality	Interaction Quality Physical Environment Quality Outcome Quality	0.469	169.665***	0.287 0.136 0.405	7.369*** 3.986*** 10.858***

Table 4 (cont.). Summary of regression models

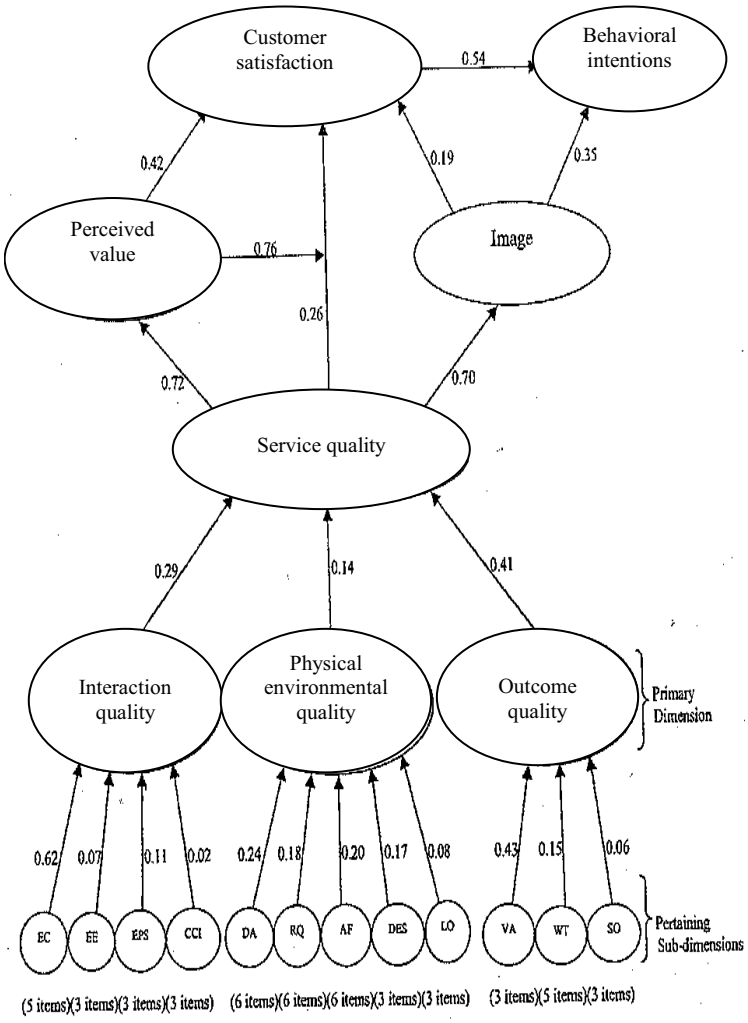
Model	Dependent variable	Independent variable (s)	Adjusted R^2	F Value	Standardized β coefficients	t value
	Customer Satisfaction	Step One Service Quality Perceived Value	0.590	417.363***	0.335 0.491	8.747*** 12.818***
		Step Two Service Quality × Perceived Value	0.579	796.252***	0.761	28.218***
6	Perceived Value	Service Quality	0.517	621.529***	0.720	24.930***
7	Image	Service Quality	0.484	544.724***	0.697	23.339***
8	Customer Satisfaction	Perceived Value Image Service Quality	0.605	296.002***	0.420 0.186 0.257	10.354*** 4.730*** 6.266***
9	Behavioral Intentions	Image Customer Satisfaction	0.656	552.498***	0.351 0.536	10.895*** 16.654***

Notes: *** significant at 1% level; ** significant at 5% level; * significant at 10% level.



Note: AT = attitude, BE = Behavior, EX = Expertise, PS = Problem-Solving, CI = Customer Interaction, DE = Décor, AM = Ambience, LO = Location, CL = Cleanliness, RQ = Room Quality, DES = Design, F&B = Food & Beverage, S&S = Security & Safety, SO = Sociability, VA = Valence, WA = Waiting Time.

Fig. 1. Customer behavioral intentions in the hotel industry: a conceptual model



Notes: EC = Employees' Conduct, EE = Employees' Expertise, EPS = Employees' Problem-Solving, CCI = Customer-to-Customer Interaction, DA = Décor & Ambience, RQ = Room Quality, AF = Availability of Facility, DES = Design, LO = Location, VA = Valence, WT = Waiting Time, SO = Sociability.

Fig. 2. Behavioral intentions of surveyed customers in the hotel industry: path model