Diagnosing the zone of tolerance for hotel services

Halil Nadiri
Department of Business Administration, Eastern Mediterranean University, Gazimağusa, Turkish Republic of Northern Cyprus, and

Kashif Hussain
School of Tourism and Hospitality Management, Eastern Mediterranean University, Gazimağusa, Turkish Republic of Northern Cyprus

Abstract

Purpose – Aims to address the concept of the "zone of tolerance" in judgments of hotel service quality. The present study describes the zone of tolerance for customers' service expectations and determines the customer satisfaction level in Northern Cyprus hotels – which is a new emerging market as an island destination.

Design/methodology/approach – The sample of the study consisted of customers visiting four-star, five-star, and resort hotels located in the Gazimağusa and Kyrenia regions of Northern Cyprus in June and July 2004. The questionnaire was based on service expectations and perceptions. As a result of the pilot study with 50 customers, the instrument was reworded for measuring service quality and the zone of tolerance for hotels. This modified instrument became the "HOTELZOT" instrument, which was used to measure customers' service expectations and service perceptions. Psychometric properties of the scale (such as reliability) were tested, and the dimensionality of the scale was confirmed through an exploratory factor analysis.

Findings – The conceptual model (HOTELZOT) presented here, and the results of this study, demonstrate that evaluation of services can be scaled according to different types of expectations – "desired" and "adequate" – and that customers use these two types of expectations as a comparison standard in evaluating hotel services. The findings reveal that the customers visiting Northern Cyprus hotels have a narrow zone of tolerance in services provided by the hotels. The results also indicate that the HOTELZOT instrument presented here is two-dimensional. The results with respect to gap analysis reveal that there was a shortfall in the service quality provided by the hotels in the sample, with the largest gap being found in intangibles.

Research limitations/implications – First, the sample in this study is small and is limited to a relatively specific group of tourists. Second, measurement of customer satisfaction was carried out using a single-item scale, and it was therefore not possible to estimate its reliability. Finally, this study examined the influence of two factors on customers' zones of tolerance for hotels. As proposed by Zeithaml *et al.*, there might be other factors that determine the width of the zone of tolerance.

Originality/value – This study is necessary, useful, and relevant because: it focuses on service quality in island destinations (which have received little attention in the past); Northern Cyprus is both an island and a virgin market in the Mediterranean where quality of hotels is a significant strategic issue for increasing the competitiveness in the international tourism market; and the study explores service quality in terms of the zone of tolerance in the hospitality industry.

Keywords Service quality assurance, Customer satisfaction, Tolerances, Hotels, Cyprus

Paper type Research paper

Introduction

The tourism industry worldwide generated more than US$2.5 trillion in sales per year in 1995, and was expected to more than triple that figure to US$9.7 trillion by 2005

Managing Service Quality
Vol. 15 No. 3, 2005
pp. 259-277

0960-4529
DOI 10.1108/09604520510597818

(Sorenson, 1997). The World Tourism Organization (WTO, 1995, cited in Mearh, 1997) has released data on the period 1980-1992. In that period, 8.5 percent of total world spending on international tourism was by Americans, 8.25 percent by Europeans, and 16.6 percent by Asians. In 1950, total international arrivals were about 25 million (Bauman, 1996; Ayres, 2000), but by 2001 they had risen to 692.6 million (WTO, 2003). The WTO (2003) forecasts that international arrivals are expected to reach more than 1.56 billion by 2020. The travel and tourism sector now employs 195 million people worldwide – that is, one of every 13 jobs (Salomon, 2003). These data demonstrate that the tourism industry has become a major contributor to the gross national product of many nations – and the marketing of tourist destinations have become a widely accepted practice in both the public and private sectors (Riege and Perry, 2000).

The key to sustainable competitive advantage in today's competitive environment lies in delivering high-quality service that results in satisfied customers (Shemwell *et al.*, 1998). Indeed, because service quality is positively related to customer retention and customer loyalty, service quality has a direct effect on company profits (Baker and Crompton, 2000; Zeithmal and Bitner, 2000). It is therefore apparent that tourism enterprises need to focus on service quality continuously if they are to gain a competitive advantage and ensure sustainability – especially in developing countries such as Northern Cyprus.

In the past decade, research on island tourism has been the focus of a number of studies (Ekinci *et al.*, 2003). Northern Cyprus, a Mediterranean island, openly declared in the second half of 1980s that the tourism sector was to be a leading sector in seeking economic development. Since then, the hotel industry in Northern Cyprus has grown steadily. New hotels have been constructed, and there has been increased competition among these hotels. According to the Tourism and Planning Office (2003), there were 128 hotels in 2003, with a total capacity of 11,858 beds. These hotels include six five-star hotels, eight four-star hotels, 28 three-star hotels, 32 two-star hotels, and 41 one-star hotels. There were also 13 guest houses. These establishments provided employment for 3,736 people. In 2003, the net tourism income was estimated to be US$178.8 million (compared with US$93.7 million in 2001). In terms of tourists' arrivals, 589,544 tourists visited Northern Cyprus in 2003. A more recent report of the Tourism and Planning Office showed that there was a 25.7 percent increase in tourist arrivals between October 2003 and 2004, and that the bed capacity had increased to 11,926 beds. Northern Cyprus is now an emerging new market for international tourists who seek holidays in an island destination. In the wake of increasing competition and the dramatic changes occurring in the tourism industry in Northern Cyprus, there is a need for hotel managers and international investors to recognize the importance of service improvements in establishing a competitive advantage.

In general, service quality promotes customer satisfaction, stimulates intention to return, and encourages recommendations. Customer satisfaction increases profitability, market share, and return on investment (Hackl and Westlund, 2000; Barsky and Labagh, 1992; LeBlanc, 1992; Stevens *et al.*, 1995; Legoherel, 1998; Fornell, 1992; Halstead and Page, 1992). Hotels with good service quality will therefore improve their market share and profitability (Oh and Parks, 1997). In a highly competitive hotel industry, individual hoteliers must find ways to make their products and services

stand out among the others. To achieve this, hoteliers must understand their customers' needs – and then set out to meet (or exceed) these needs. As Faché (2000) has observed, one of the most important developments in the tourism industry is the growing attention to service quality from the customer's perspective.

If service quality is to be improved, it must be reliably assessed and measured. According to the SERVQUAL model (Parasuraman *et al.*, 1988) service quality can be measured by identifying the gaps between customers' expectations of the service to be rendered and their perceptions of the actual performance of the service. SERVQUAL is based on five dimensions of service (Parasuraman *et al.*, 1988):

(1) *Tangibles*. The physical surroundings represented by objects (for example, interior design) and subjects (for example, the appearance of employees).

(2) *Reliability*. The service provider's ability to provide accurate and dependable services.

(3) *Responsiveness*. A firm's willingness to assist its customers by providing fast and efficient service performances.

(4) *Assurance*. Diverse features that provide confidence to customers (such as the firm's specific service knowledge polite and trustworthy behavior from employees).

(5) *Empathy*. The service firm's readiness to provide each customer with personal service.

Despite some misgivings in the literature about SERVQUAL, Zeithaml *et al.* (1993) contend that the instrument provides a useful method for quantifying desired service levels, minimum service levels, and customer perceptions of actual service. The "zone of tolerance" incorporates these service levels. It describes the difference between desired service (what the customer hopes to receive) and adequate service (what the customer will accept as sufficient). The service level that a customer believes the firm will actually deliver is referred to as the predicted service. Parasuraman (2004, p. 47) put it this way:

> . . . customers, rather than having a single "ideal" level of expectations, actually have a range of expectations – namely, a "zone of tolerance", bounded by "desired service" (service level customers believe can and should be delivered) at the top and "adequate service" (minimum service level customers are willing to accept) at the bottom. If the delivered service falls within the zone, customers will be satisfied. If the service is better than their desired service level, customers will perceive the service as exceptionally good, and be delighted. However, if the service falls below the zone of tolerance, customers will be disgusted and look elsewhere for the service.

The zone of tolerance thus provides a range within which customers are willing to accept variations in service delivery. Teas and DeCarlo (2004) observed that it also provides diagnostic value by capturing the range of service within which a firm meets customer expectations.

The zone of tolerance can also provide an insight into the relative importance of each dimension of SERVQUAL (tangibles, reliability, responsiveness, assurance, and empathy). Moreover, the gap model (between perceptions and expectations) proposed by Parasuraman *et al.* (1991) provides a means of analyzing the situation, so that practical steps can be taken to improve service quality.

The present study explores the zone of tolerance and customer satisfaction levels in Northern Cyprus hotels. The SERVQUAL instrument was chosen for the present study to facilitate future replication (and hence validation) of the study. Alexandris *et al.* (2002) have reported that SERVQUAL is a good approach for assessing practical issues of service quality in the hotel sector.

This study is necessary, useful, and relevant because:

- It focuses on service quality in island destinations (which have received little attention in the past).
- Northern Cyprus is both an island and a virgin market in the Mediterranean where quality of hotels is a significant strategic issue for increasing the competitiveness of the Mediterranean islands on the international tourism market.
- The study explores service quality in terms of the zone of tolerance in the hospitality industry (again a subject that has received little attention in the literature).

Following this introduction, the paper presents a literature review of the relevant subject matter. The paper then presents the methodology of the study, including a conceptual model for measuring the zone of tolerance in hotels. The findings of the study are then presented, followed by a discussion of the implications and final conclusions.

Literature review

Service-quality measurement

Service quality has emerged as an issue of paramount importance for the hospitality industry. It has been identified as one of the most effective (albeit difficult) means of building a competitive position and improving organizational performance (Lewis, 1993). Service quality can be a differentiating factor among hospitality establishments that provide otherwise identical services within a small area. Establishing high service quality enhances customer satisfaction – thus generating increased market share and profitability of providers (Hoffman and Bateson, 1997). However, despite the importance of service quality in the hospitality industry, many managers apparently do not know how to measure it. Moreover, existing measurements of service quality are controversial in terms of generating reliable information for managers (Hoffman and Bateson, 1997).

The use of comparisons is central to measuring service quality. Although several comparison standards have been introduced from different perspectives, their utilization often triggers methodological problems in the measurement of service quality – such as vague conceptualization and misinterpretation (Ekinci *et al.*, 2000).

Expectation is one of the most widely employed comparison standards in the measurement of service quality (Parasuraman *et al.*, 1985, 1991, 1994). According to this view, customers judge service quality by comparing their expected level of performance with the perceived service performance. However, despite the importance of expectation as a comparison standard, its use is still vague and needs to be refined (Liljander and Strandvik, 1993).

It has been argued that the nature of the service-quality construct (especially with respect to the number of dimensions) might be industry-specific. In particular, the

suitability of the five dimensions of SERVQUAL in different service activities has been an important question in several studies (Angur *et al.*, 1999; Babakus and Mangold, 1992; Babakus and Boller, 1992; Carman, 1990) Karatepe and Avci, 2002; Ekinci *et al.*, 2003). It has also been argued that a performance-only measure, such as SERVPERF, explains more of the variance in an overall measure of service quality than does SERVQUAL (Cronin and Taylor, 1994).

The nature of the zone of tolerance

In 1994, the developers of SERVQUAL modified its structures (Parasuraman *et al.*, 1994). The modified model was designed to measure two kinds of service quality:

(1) The gap between perceived service and desired service – referred to as "measure of service superiority" (MSS).

(2) The discrepancy between perceived service and adequate service (or minimum service) – referred to as "measure of service adequacy" (MSA).

In response to criticism of measurements used in this modified model (especially criticism of the indirect nature of the measure of the perception and expectation gap), Parasuraman *et al.* (1994) suggested three alternative service-quality measurement formats to capture MSS and MSA. These were as follows:

(1) The first was a three-column format that generates separate ratings of desired, adequate, and perceived service using three identical, side-by-side scales. This requires computation of the "perceived-desired difference' (for MSS) and the "perceived-adequate difference" (for MSA). Its operationalization of service quality is thus similar to that of SERVQUAL – although it does not repeat the battery of items.

(2) The second was a two-column format. In contrast to SERVQUAL, this format generates direct ratings of the service-superiority gap (MSS) and the service-adequacy gap (MSA) using two identical scales.

(3) The third was a one-column format. This format also generates direct ratings of the service-superiority gap and the service-adequacy gap. However, the questionnaire is split into two parts – with Part I containing one set of scales (for MSS) and Part II containing the same set of scales (for MSA). Thus, this format involves repeating the battery of items (as in SERVQUAL).

According to Parasuraman *et al.* (1994), the three-column format is superior to the other formats.

The main criticism of SERVQUAL has focused on the use of expectation as a comparison standard (Teas, 1994; Cronin and Taylor, 1994). It has been argued that expectation is dynamic in nature, and that it can therefore change according to customers' experiences and consumption situations. For this reason, Boulding *et al.* (1993) rejected the use of expectation as a comparison standard for the measurement of service quality, and recommended performance-only measurement.

In response to this criticism, Zeithaml *et al.* (1993) proposed that customer expectation (as a comparison standard) can be considered from two perspectives: narrow and broad. According to the narrow perspective, customer expectation is a belief in the future performance of a product. According to the broad perspective, expectation is multidimensional and associated with different levels of performance.

The authors then classified expectations into desired and adequate categories. They defined desired service as the level of service that customers hope to receive. This is a mixture of what customers believe the level of performance can be and should (Zeithaml *et al.*, 1993). They claimed that this corresponds to customer evaluation of service quality. The adequate service expectation was defined as the lower level of performance that consumers will accept. The authors noted that this level of expectation is comparable to minimum tolerable expectation. This was termed "predictive expectation", and is associated with customer satisfaction. The area between desired service and adequate service was called the zone of tolerance, and represents the range of service performance that customers will tolerate (see Figure 1).

The inherent nature of services makes consistent service delivery difficult across employees in the same firm, and even by the same service employee from day to day. The extent to which the customers are willing to accept this variation is the zone of tolerance (Lovelock and Wright, 1999). Therefore, service performance that is above the minimum tolerable level will ensure satisfaction. More importantly, consumers will tolerate services that are equivalent to their minimum tolerable expectation. In the terminology of Zeithaml *et al.* (1993), consumers will tolerate service performance if it is equal to the "adequate" service level. Therefore a zone of tolerance occurs when the service performance is between the desired expectation and the adequate expectation. In addition, the "bottom line" for satisfaction occurs when the perceived service performance is equal to the adequate service expectation.

In summary, although some scholars have recommended that performance-only measurement is sufficient, such an approach would limit the explanatory power of service-quality measurement (Parasuraman *et al.*, 1994). Assessment of desired and adequate expectations might be valuable in determining and monitoring service performance and customer satisfaction. In addition, this information can be used as an internal benchmark to enhance the existing level of service quality. This study therefore draws on Zeithamal *et al.*'s (1993) model in developing its methodology.

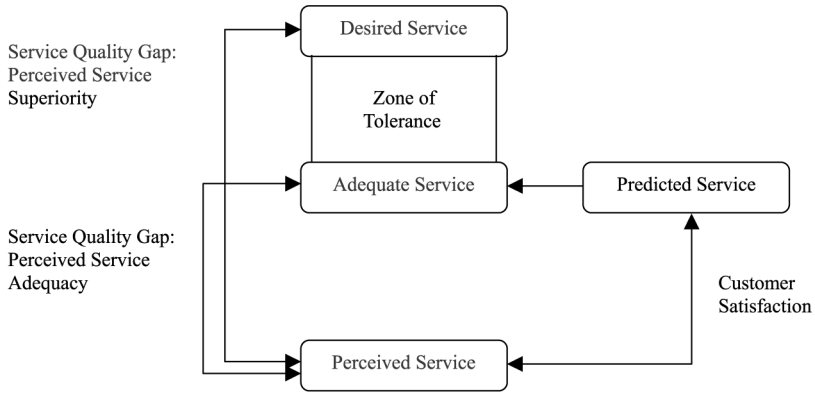


Figure 1.
Customer service expectations

Source: Adopted from Zeithaml *et al.* (1993, p. 5)

Methodology

A conceptual model for measuring the zone of tolerance in hotels

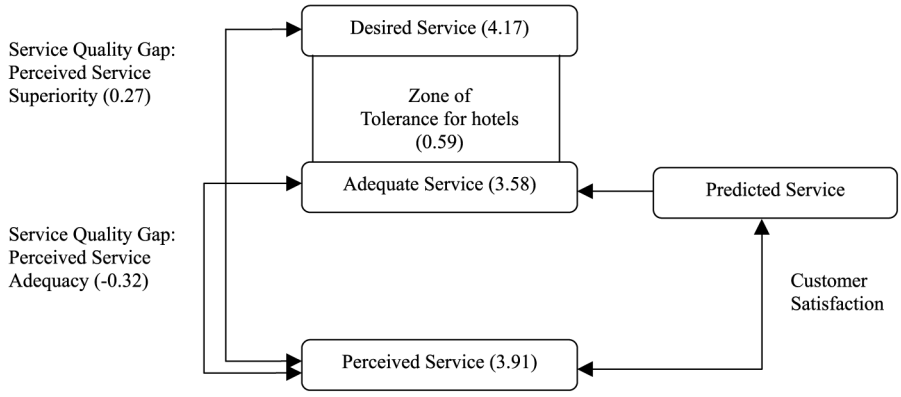
The present study proposes a conceptual model called "HOTELZOT" for measurement of the zone of tolerance in hotel service (see Figure 2). This model expands on previous work (described above) by incorporating two levels of expectations – desired and adequate. Desired expectations represent the level of hotel service that a customer hopes to receive – a blend of what a customer believes "can be" and "should be" offered. This differs from Parasuraman *et al.*'s (1988) conceptualization – which referred only to what the service "should be". Adequate expectations represent a lower level of expectations. They relate to what a hotel customer deems an "acceptable" level of performance. Desired expectations are deemed to remain relatively stable over time, whereas adequate performance expectations might vary with time. The difference between these two levels of service-quality expectation is deemed the zone of tolerance for hotels. The zone of tolerance can be defined as "the extent to which customers recognize and are willing to accept heterogeneity" (Zeithaml *et al.*, 1993, p. 6). This zone of tolerance in the model is tested using the dimensions of SERVQUAL.

Sampling

The sample of the study consisted of customers visiting four-star, five-star, and resort hotels located in the Gazimağusa and Kyrenia regions of Northern Cyprus in June and July 2004. These regions are the most popular tourist destinations in Northern Cyprus (Nadiri, 2003), and the hotels were selected on the basis of a non-probability convenience sampling technique (Aaker *et al.*, 1995). After permission had been gained from the managers of the hotels, 500 questionnaires were distributed to visiting customers. Of these, 300 questionnaires were returned. In all, 285 questionnaires were found to be useful, which represents a 57 percent response rate from the original sample of 500.

Data collection

The questionnaire was based on service expectations ("adequate" and "desired") and service perceptions. It had a three-column format. There were 23 items in all – 22 items



Note: Mean values are presented in parenthesis

Figure 2.
Zone of tolerance for hotels (HOTELZOT)

for measuring according to the SERVQUAL scale (adopted from Parasuraman *et al.*, 1991), and one item for measuring customer satisfaction:

(1) *Tangibles*:
- The hotel has modern looking equipment.
- The hotel's physical facilities are visually appealing.
- The hotel's employees are neat-appearing.
- Materials associated with the service (such as pamphlets or statements) are visually appealing at the hotel.

(2) *Reliability*:
- When the hotel promises to do something by a certain time, it does so.
- When you have a problem, the hotel shows a sincere interest in solving it.
- The hotel performs the service right the first time.
- The hotel provides its services at the time it promises to do so.
- The hotel insists on error-free records.

(3) *Responsiveness*:
- Employees of the hotel tell you exactly when services will be performed.
- Employees of the hotel give you prompt service.
- Employees of the hotel are always willing to help you.
- Employees of the hotel are never too busy to respond to your requests.

(4) *Assurance*:
- The behavior of employees of the hotel instills confidence in customers.
- You feel safe in your transaction with the hotel.
- Employees of the hotel are consistently courteous towards you.
- Employees of the hotel have the knowledge to answer your questions.

(5) *Empathy*:
- The hotel gives you individual attention.
- The hotel has operating hours convenient to all its customers.
- The hotel has employees who give you personal attention.
- The hotel has your best interest at heart.
- Employees of the hotel understand your specific needs.

(6) *Customer satisfaction*. Overall, I am satisfied with the hotel services.

A pilot test study was conducted with 50 customers. As a result of the pilot study, the instrument was reworded for measuring service quality and the zone of tolerance for hotels. This modified instrument became the "HOTELZOT" instrument. A five-point Likert scale (Likert, 1934) was used for data collection – with 1 being "strongly disagree" and 5 being "strongly agree". The survey instrument was back-translated (Aulakh and Kotabe, 1993) for a Turkish Cypriot cultural setting. Customers were of various nationalities – including Turkish, British, German, Swedish, and Polish. The survey instrument was applied in English to nationalities other than Turkish.

Data analysis

Descriptive measures such as means, standard deviations, and frequencies were calculated using SPSS 10.0 for Windows. Customers' service expectations (adequate and desired) and service perceptions were measured using the HOTELZOT instrument described above. Particular measures relevant to this study were defined as follows:

- The zone of tolerance for hotels was calculated as the difference between the desired service and the adequate service.
- The MSS was calculated as the difference between the desired service and the perceived service.
- The MSA was defined as the difference between adequate service and perceived service.

HOTELZOT dimensions were calculated with a "gap analysis" as the difference between perceptions and expectations using paired *t*-tests. Psychometric properties of the scale (such as reliability) were tested, and the dimensionality of the scale was confirmed through an exploratory factor analysis.

Findings

Dimensions of the model

The results of exploratory factor analysis demonstrated that HOTELZOT instrument failed to form its five assumed dimensions – tangibles, reliability, responsiveness, assurance, and empathy. The results formed only two dimensions – tangibles and intangibles. This is discussed further below.

Demographics

Table I shows that 58.9 percent of the respondents were males. The largest group of respondents was aged between 38 and 47 (35.4 percent). With respect to education, 45.3 percent of the respondents had a formal tertiary education (defined as a minimum of an undergraduate degree). In terms of nationality, 48.1 percent were British, 40.3 percent were Turkish, and 11.6 percent were from various other European countries (including Germany, Sweden, Finland, and Italy). Only 22.1 percent of respondents were "career people" (engineers, doctors, lawyers, and so on); the majority (53 percent) were retired, housewives, or workers. A slight majority (50.5 percent) stayed in four-star hotels; the remainder stayed in five-star hotels or holiday resorts.

Zone of tolerance

The results in Table II demonstrate that the mean of desired service level was higher than the mean of adequate service level and that the mean of perceived service level was higher than the mean of adequate service level. The customers' perceived service (as received) was therefore within the zone of tolerance for hotels.

When the zone of tolerance was examined with MSS and MSA, the results demonstrated a narrow zone of tolerance (see Figure 3). The MSS was within the zone of tolerance, but the MSA was below the zone of tolerance. The same relationship was found in terms of tangibles and intangibles. It can therefore be concluded that the customers had a narrow zone of tolerance on each dimension of SERVQUAL (tangibles and intangibles). The reliability (internal consistency) of each service level (expected and perceived) exceeded the suggested level of 0.70 (Churchill, 1979; Nunnally, 1978),

	Frequency (*F*)	Percentage
Gender		
Female	117	41.1
Male	168	58.9
Total	285	100.0
Age		
8-27	31	10.9
28-37	44	15.4
38-47	101	35.4
48-57	85	29.8
58-above	24	8.4
Total	285	100.0
Level of education		
Primary school	2	0.7
Secondary or high school	35	11.2
Vocational school	88	30.9
Undergraduate degree	129	45.3
Master's/doctorate degree	34	11.9
Total	285	100.0
Nationality		
Turkish	115	40.3
British	137	48.1
Others (Europeans)	33	11.6
Total	285	100.0
Occupation		
Self-employed	22	7.7
Professionals (e.g. lawyers, doctors, engineers)	63	22.1
Students	15	5.3
Executive of a corporation	9	3.2
Governmental employees (e.g. officers, policemen)	8	2.8
Personnel of educational organization	17	5.9
Others (e.g. retired, housewives, laborers, etc.)	151	53.0
Total	285	100.0
Hotel stay		
Five-star	128	44.9
Four-star	144	50.5
Others	13	4.6
Total	285	100.0

Table I.
Demographic breakdown of the sample ($n = 285$)

which suggests that the "measures [were] free from random error and thus reliability coefficients estimate the amount of systematic variance" (Churchill, 1979, p. 4). The high alpha values indicated good internal consistency among the items, and the high alpha value for the overall scale indicated that convergent validity was met (Parasuraman *et al.*, 1991). The results obtained in this study are therefore reliable.

Distribution of HOTELZOT values between expectations and perceptions

Table III demonstrates that customers had relatively high expectation scores (mean = 4.25) regarding "service performance at right time", "prompt service",

	Means	Standard deviation	Cronbach alpha
Adequate service expectations	*3.58*	*0.50*	*0.92*
Tangibles	3.51	0.61	0.75
Intangibles	3.61	0.51	0.90
Desired service expectations	*4.17*	*0.55*	*0.94*
Tangibles	4.11	0.65	0.80
Intangibles	4.20	0.56	0.93
Perceived service received	*3.91*	*0.70*	*0.95*
Tangibles	3.84	0.76	0.81
Intangibles	3.93	0.73	0.95
MSA [a]	*−0.32*	*0.73*	*0.94*
Tangibles	−0.33	0.83	0.78
Intangibles	−0.32	0.75	0.94
MSS [b]	*0.27*	*0.71*	*0.94*
Tangibles	0.27	0.78	0.79
Intangibles	0.27	0.74	0.94
Zone of tolerance [c]	*0.59*	*0.51*	
Tangibles	0.60	0.62	
Intangibles	0.59	0.52	

Notes: [a] Measure of service adequacy; [b] Measure of service superiority; [c] Desired level − adequate level

Table II.
Zone of tolerance for hotels

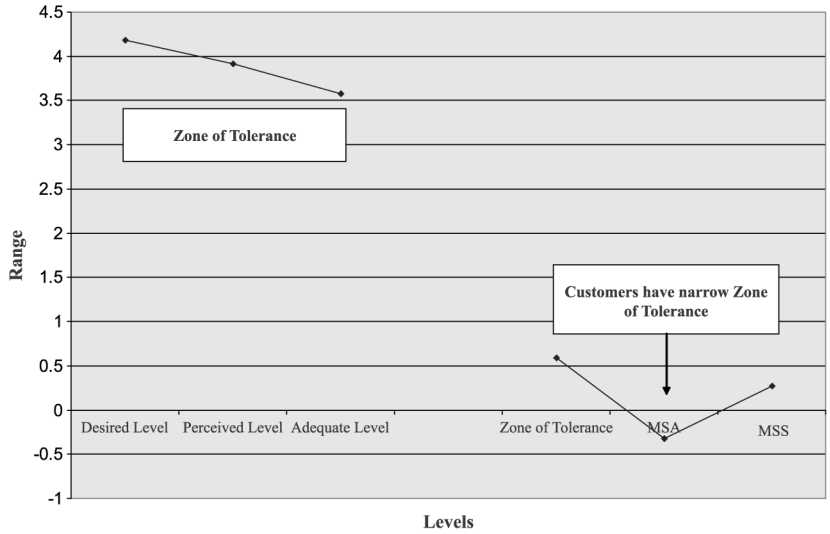


Figure 3.
Zone of tolerance

"employees' courtesy" and "convenience of operating hours". However, relatively low expectation scores (mean = 4.05) were found for "modern-looking equipment" and "physical facilities". This indicates that customers were more sensitive about intangibles. As shown in Table III, a relatively high customer perception score (mean = 4.08) was found for "convenient operating hours". However, there was a relatively low perception score (mean = 3.79) for "personal attention given to customers by employees".

	Expectations		Perceptions			
	Means	SD	Means	SD	Gap mean	*t*-value
Tangibles						
The hotel has modern-looking equipment	4.04	0.80	3.82	0.86	−0.22	3.62*
The hotel's physical facilities are visually appealing	4.05	0.84	3.80	0.90	−0.25	4.23*
The hotel's employees are neat-appearing	4.24	0.77	3.94	1.00	−0.30	5.04*
Materials associated with the service are visually appealing at the hotel	4.13	0.85	3.80	1.01	−0.33	5.67*
Intangibles						
When the hotel promises to do something by a certain time, it does so	4.14	0.89	3.91	0.96	−0.24	3.89*
When you have a problem, the hotel shows a sincere interest in solving it	4.14	0.81	3.90	1.03	−0.24	3.91*
The hotel performs the service right the first time	4.26	0.89	3.99	1.07	−0.27	4.65*
The hotel provides its services at the time it promises to do so	4.20	0.84	3.91	1.00	−0.29	4.73*
The hotel insists on error-free records	4.17	0.86	3.92	1.05	−0.25	3.73*
Employees of the hotel tell you exactly when services will be performed	4.20	0.81	3.86	1.04	−0.34	5.25*
Employees of the hotel give you prompt service	4.29	0.80	3.92	1.05	−0.37	5.53*
Employees of the hotel are always willing to help you	4.20	0.81	3.89	1.02	−0.31	4.60*
Employees of the hotel are never too busy to respond to your requests	4.14	0.85	3.89	1.01	−0.25	3.84*
The behavior of employees of the hotel instils confidence in customers	4.15	0.82	3.89	0.96	−0.26	4.14*
You feel safe in your transaction with the hotel	4.19	0.81	4.08	0.92	−0.11	1.84
Employees of the hotel are consistently courteous towards you	4.25	0.83	3.99	0.93	−0.26	4.49*
Employees of the hotel have the knowledge to answer your questions	4.22	0.82	3.96	0.95	−0.26	4.30*
The hotel gives you individual attention	4.17	0.84	3.89	1.03	−0.28	4.28*
The hotel has operating hours convenient to all its customers	4.32	0.90	4.11	0.98	−0.21	3.55*
The hotel has employees who give you personal attention	4.13	0.81	3.79	0.91	−0.34	6.00*
The hotel has your best interests at heart	4.16	0.76	3.89	0.95	−0.27	4.35*
Employees of the hotel understand your specific needs	4.15	0.86	3.85	1.03	−0.30	4.63*
Customer satisfaction						
Overall, I am satisfied with the hotel services			4.00	1.02		

Table III.
Distribution of HOTELZOT values between expectations and perceptions

Notes: SD: Standard deviation; Gap mean is defined as perception mean-expectation mean; * *t*-test two-tailed with probability < 0.05 and paired samples correlations with probability < 0.05

It should be noted that all the perception scores for all service items in this study were lower than the expectation scores – implying that all service items suffered from a service-quality shortfall. The largest gap scores (mean = 0.37) were found with respect to such intangibles as "prompt service given by the employees", "materials associated with the service such as pamphlets etc.", "employees advising exactly when services will be performed", and "employees always willing to help".

The paired-sample *t*-tests (between the respective expectation and perception means of all the items) showed that they were significantly different – except for the item referring to "safe transactions". The overall negative mean differences indicate that an expected service quality was not experienced by the customers, and that service quality provided by the hotels did not meet expectations. Nevertheless, the shortfall did not seem to undermine the overall service quality and customer satisfaction. The results in Table III show a reasonable score for customer satisfaction (mean = 4.00). It is therefore concluded that the dimensions of HOTELZOT are a good predictor of customer satisfaction in Northern Cyprus hotels.

Reliability and dimensionality of the scale

The results in Table IV demonstrate that the overall reliability of the scale had an alpha coefficient of 0.96 – which is deemed acceptable (Churchill, 1979; Nunnally, 1978). Exploratory factor analysis using varimax rotation was employed to explore the dimensionality in the data set. The two factors – tangibles and intangibles , had eigenvalues greater than 1. The cumulative variance explained by them was 56.19 percent, and all the factor loadings were found to be greater than 0.50 (Hair *et al.*, 1979) – which demonstrates two distinct dimensions in the study. The Kaiser Meyer-Olkin statistic was found to be 0.96 and Bartlett's test of sphericity value was 3838.12 ($p < 0.000$), which is an acceptable level as described by Norusis (1985). The Cronbach alphas for tangibles and intangibles were found to be 0.95 and 0.81 respectively at the aggregate level – which exceeds the minimum standard 0.70 (Churchill, 1979, Nunnally, 1978).

Discussion and implications

The objective of this study was to describe the range of zone of tolerance for customers' service expectations and to determine the customer satisfaction level in Northern Cyprus hotels. The findings demonstrate that the HOTELZOT model proposed in the study is reliable. It was found that customers' evaluation of service quality in Northern Cyprus hotels consists of two dimensions: tangibles and intangibles. The study thus supports previous empirical studies in the hospitality and tourism literature (Karatepe and Avci, 2002; Ekinci *et al.*, 2003).

The measurement of a zone of tolerance is a reliable new method for determining service variations in Northern Cyprus hotels. The findings reveal that customers visiting Northern Cyprus hotels have a narrow zone of tolerance – which indicates that customers are not likely to accept heterogeneity in services provided by the hotels. The results also confirm that evaluation of services can be scaled according to two different types of expectations – desired and adequate. In other words, customers use two different types of expectations (desired and adequate) as a comparison standard for the evaluation of services. This finding confirms that expectations can be antecedents of customer satisfaction. The proposition of Zeithaml *et al.* (1993) with respect to the use

Dimensions and items	Eigenvalue	% of variance	Cumulative variance (%)	Cronbach alpha	Factor loadings
Intangibles	11.24	51.09	51.09	0.95	
Employees of the hotel give you prompt service					0.75
Employees of the hotel tell you exactly when services will be performed					0.73
The hotel provides its services at the time it promises to do so					0.72
Employees of the hotel have the knowledge to answer your questions					0.71
The hotel has operating hours convenient to all its customers					0.69
Employees of the hotel are never too busy to respond to your requests					0.69
The hotel performs the service right the first time					0.68
The hotel insists on error-free records					0.67
Employees of the hotel are always willing to help you					0.67
The hotel gives you individual attention					0.63
When you have a problem, the hotel shows a sincere interest in solving it					0.62
The behavior of employees of the hotel instils confidence in customers					0.62
Employees of the hotel are consistently courteous towards you					0.62
Employees of the hotel understand your specific needs					0.61
The hotel has your best interests at heart					0.61
You feel safe in your transaction with the hotel					0.59
The hotel has employees who give you personal attention					0.59
When the hotel promises to do something by a certain time, it does so					0.55
Tangibles	1.12	5.11	56.19	0.81	
The hotel's physical facilities are visually appealing					0.80
The hotel has modern-looking equipment					0.76
The hotel's employees are neat in appearance					0.76
Materials associated with the service are visually appealing at the hotel					0.65

Table IV.
Results of exploratory factor analysis

Notes: Kaiser Meyer-Olkin measures of sampling adequacy: 0.96; Bartlett's Test of Sphericity: 3838.12, $p < 0.000$; Principal component analyses with a varimax rotation; Overall reliability score: 0.96

of "desired expectation" and "adequate expectation" as a comparison standard was supported by the results.

The findings with respect to gap analysis reveal that the customers' perceived service quality provided by Northern Cyprus hotels suffered from a shortfall, implying that customers' expectations of service quality were not met in both tangibles and intangibles services. Similar findings were drawn by Lam and Zang (1998), Ekinci *et al.*(2003) and Kozak *et al.* (2003) in their studies. Overall evaluation of service quality in Northern Cyprus hotels was determined largely by the intangibles.

According to this study, a gap-analysis measurement scale is an indicator for measuring customer satisfaction. As previously noted, some scholars have argued that measurement of expectations does not provide appropriate information for estimating service quality; they argue that a performance-only measure (such as SERVPERF) is a better predictor of service quality (Cronin and Taylor, 1992; Babakus and Boller, 1992; Boulding *et al.*, 1993). In general, previous studies do suggest that a SERVPERF measurement is sufficient. However, it has been acknowledged that such an approach limits the explanatory power of service-quality measurement (Parasuraman *et al.*, 1994) because assessment of desired and adequate expectations might be valuable in determining and monitoring service performance and customer satisfaction. In addition, this information might be used as an internal benchmark to enhance the level of service quality.

Managerial implications

The results of the present study have a number of practical implications for hotel managers who are seeking to identify the range of tolerance and customer satisfaction level of their customers:

First, the findings of this study are important for Northern Cyprus hotel managers who should note that customers are likely to become more demanding in terms of the level of hotel service they consider to be adequate.

Second, hotel managers should pay attention to intangibles if they are to improve quality of services in Northern Cyprus hotels.

Finally, the gap raises some issues about how managers should monitor quality and prioritize resources to anticipate customers' needs more effectively. Questions might also be asked about the extent to which the managers of these hotels are really aware of the needs of their customers – as might be obtained through personal experience of their product. Managers should ensure that employees are well trained and understand the level of service that the hotel expects to provide for their customers. Ensuring that employees are well trained, and giving attention to other factors that are required for the provision of a high level of service quality might incur increased costs, but will provide improved customer satisfaction.

Limitations and avenues for future research

This research has certain limitations, and interpretation of its findings therefore needs to be undertaken with caution.

First, the sample in this study is small and is limited to a relatively specific group of tourists – Turkish, British, and European citizens who stayed in certain hotels in Northern Cyprus.

Second, measurement of customer satisfaction was carried out using a single-item scale, and it was therefore not possible to estimate its reliability. Therefore, a study of further applications of the expectation scale in different samples with more items measuring customer satisfaction would better establish its external validity.

Third, this study examined the influence of two factors (tangibles and intangibles) on customers' zones of tolerance for hotels. As proposed by Zeithaml *et al.* (1993), there might be other factors that determine the width of the zone of tolerance – such as situational factors, advertising, price, repurchase intention, and word-of-mouth recommendation. Subsequent empirical research should look at the impact of these factors on customer expectations.

Finally, many of the issues raised by Zeithaml *et al.* (1993) remain to be explored – for example, how marketing strategies can be designed to manage adequate service-level expectations, the role of predicted service in influencing how consumers evaluate service quality, and how the hotel industry can use the zone of tolerance concept to formulate marketing strategies effectively.

Conclusion

This empirical study of an island destination was conducted to provide researchers of hotel service-quality satisfaction with useful guidelines for future research. It aimed to provide more rigorous theoretical and methodological processes, and to fill the gaps in the literature. The terms "satisfaction" and "quality" have been central in hospitality management, and their importance is likely to increase as competition among continues to grow. Nevertheless, hospitality research has not, on the whole, developed any substantive theories and innovations. Partial responsibility for this lies with the method-driven research traditions of the past. One of the important implications of the present study using the HOTELZOT scale (a modified version of SERVQUAL) is that hotel managers should keep the service level above the customers' desired expectations if they are to please them. In addition, the use of an expectation scale (incorporating "gap theory") provides diagnostic information about the level of service performance from the customers' perspective. The use of a zone of tolerance method provides useful information to managers for developing quality-improvement strategies.

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