An Application of LODGSERV to the Comparison of Leisure Travelers’ and Hoteliers’ Service Quality Perspectives

Ching-Hsu Huang
Department of Hotel and Restaurant Management
National Pintung University of Science Technology
Taiwan, R.O.C.

Abstract
The object of this study is to compare the different perspectives with regard to service quality between leisure travelers and hoteliers in Taiwan. The sample included 1084 leisure travelers and 186 hoteliers. Seven domains of service quality perspectives were developed. Both leisure travelers and hoteliers held the different perspectives toward five factors of service quality. Five constructs of service quality perspectives displayed significant differences between leisure travelers and hoteliers. Cluster analysis was conducted to explore traveler’ and hoteliers’ perspective of hotel service quality and group homogeneously the sample to different segments. The study also examined whether service quality perspectives differed across segments. Three mutually exclusive segments of leisure travelers were identified and found to differ six service quality factors. Two hoteliers segments were identified and found there was significant different. The managerial implications of findings for the hotel industry and researchers are discussed.

Key words: Service Quality, LODGSERV, perspective, leisure travelers, hotelier

1. Introduction
The demand of hotel industry is dramatically increased recently because of the implementation of a five-day workweek system. In 1999, 40.32% of international tourist hotel customers were Taiwanese and 82.4% of Taiwan citizen traveled once per year for leisure (Tourism Bureau, 2005). In addition, as the process of economic development and national income of Taiwan are going, the growing importance of the service sector becomes obvious. According to the Tourism Bureau in Taiwan, people are in the increasing demand of hospitality industry with the implementation of a five-day workweek, increase of leisure time, consumption capability and the elevation of quality. Unfortunately, 60% of the leisure travelers didn’t stay at hotels over night. The hoteliers in Taiwan tried to increase the room rate by exploring the segments of domestic leisure travelers.

In Taiwan, the government has been dedicated itself to laying out various
initial policies for making Taiwan the Asia Pacific Regional Operations Center (APROC). It also makes efforts to implement set policies. Internally, the government is intensively upgrading comprehensive levels of businesses and has the service industry incorporated into the Award of National Quality to serve the purpose of strengthening business service quality. It also establishes the system of customers’ satisfaction indicator and service quality standard.

It seems there are little concerns about the different perspective between customers and hoteliers (Armstrong, Mok, & Go, 1997; Chu & Choi, 2000). The object of this study is to compare the different perspectives with regard to service quality between leisure travelers and hoteliers in Taiwan hotel industry. The perspectives of hotel service quality were compared between customers and hoteliers to investigate the value of service quality for marketing purposes in hotel industry. Knowing how leisure travelers perceive the service quality and how competitors engage in service quality management system can help hotels to identify customers needs and want, differentiate themselves from competitors, enhance customer loyalty, retain existing customers, increase repeat business, and build positive word-of-mouth (Chu & Choi, 2000; Getty, 1994; Harrington & Akehurst, 1999)

2. Literature Review

There are five dimensions of SERVQUAL that are assurance, responsiveness, tangibles, empathy, and reliability and it provided the main structure for developing other service quality scales such as DINSERVE and LODGQUAL (Knutson, Stevens, Wullaert, Patton, & Fumito, 1991; Stevens, Knutson, & Patton, 1995). Some researchers adapted the instrument SERVQUAL to the restaurant industry and use the lessons learned in developing and refining LODSERV: a service quality index for the lodging index (Knutson, Stevens, Patton, & Thompson, 1992; Knutson, Stevens, Wullaert, & Patton, 1991; Knutson, Stevens, Wullaert, Patton et al., 1991). The instrument contained 40 statements and they used confirmatory factor analysis to purify the LODSERV scale and confirm the five dimensions of service quality.

The topic of service quality for hotel culminated in all over the world recently and the researchers or experts engaged in finding the best way of measuring or improving service quality for hotels from different aspects such as employees, the expectation and perception, and service providers (Choi & Chu, 2001; Harrington & Akehurst, 1999; Qu & Tsang, 1998; Suh, Lee, Park, & Shin, 1997; Yucelt & Marcella, 1995). Over the last decade, there has been some discussion and controversy debate about the measurement service quality or customer satisfaction in order to benchmark the quality of hotel services (Ekinci & Riley, 1998; Kivela, Inbakaran, & Reece, 1999a). The discussion and debate were focused on the measurement and/or improve the hotel service quality from different kinds of aspects such as employee
performance, customer perspective, the gaps in the service measurement model, and holistic viewpoints. The comparative studies were conducted separately between different typed of customers or hotelier instead of both (Choi & Chu, 2001; Knutson, Stevens, Wullaert, Patton et al., 1991; Lewis, 1987; Luchars & Hinkin, 1996; Yasin & Yavas, 2001).

The past research of hotel service quality indicated different types of attribute variables that related to the components and concepts of service (Saleh & Ryan, 1991). Some researchers utilized different frameworks to develop the service quality instrument such as Cost of Quality, Rapid Assessment Methodology, Quality Function Deployment and Importance-Performance Analysis (Chu & Choi, 2000; Jeong & Oh, 1998; Yasin, Czuchry, & Dorsch, 1996; Yasin & Yavas, 2001). Most of them regarded employees as keystone of customer satisfaction and service quality, so the lodging operations thought empowerment and given authority may improve the service quality. Some studies tested an integrative model of service quality, guest loyalty, customer value and satisfaction to find the ways of understanding customer needs and wants (Oh, 1999; Williams, 1999).

3. Methodology

3.1. Population and Sample

The population of hoteliers was defined as the subjects were recruited from the pool of hotels that the frame was obtained from Tourism Bureau Ministry of Transportation and Communication R.O.C.. A total of 749 hotels are the population in this study. One hundred and eight-one hotels returned the survey and 186 usable responses were eventually available for the data analysis. Thus the response rate was 25.50%.

The population of leisure travelers was defined as the people who are Taiwan citizen and more than 12 years old. According to the formula

\[ n = \frac{1}{\left(1 - \frac{1}{N}\right)e^2 + \frac{1}{N}} \]

the 1111 leisure travelers in Taiwan will be selected for the instrument testing at 3% estimated error (e) and .05 confidence level. In the formula, the choice of sample size is governed by the three factors. They are the variance of the population, the margin of acceptable error, and the confidence level (Lewis, 1984; Ryan, 1995; Sauder, Lewis, & Thomhill, 1997; Tull & Hawkins, 1987). The N is the population of leisure travelers defined in this study and it was about 15 million. The subjects were recruited from the hotel guests stayed at the hotel to complete the questionnaire. The research assistants approached the every second guests who entered the lobby during the weekend because there were more leisure travelers (Tourism Bureau, 2005). There were 27 guests refused to answer the questionnaires.
Therefore, a total of 1068 leisure travelers were included in this study.

3.2. Measures

There are some controversy debates of LODGSERV (Ekinci & Riley, 1998; Kivela et al., 1999a; Kivela, Inbakaran, & Reece, 1999b, 1999c) and it failed to confirm the five dimensions when applied the SERVQUAL to restaurants in Taiwan (Huang, 1997). A seven-point Likert scale ranged from 1 for strongly disagree to 7 strongly agree to record subjects’ perspectives of hotel service quality. This measure is able to explore the level of subjects’ perspectives with regard to the relationship between service quality and variables.

Twenty experts in the field of service quality management and hotelier were invited to serve as panel members in order to ensure the content validity of questionnaire. A pilot study of the questionnaire was conducted prior to collecting the final study data of 50 subjects for hoteliers and 100 subjects for leisure travelers. They were asked to comment on the validity and readability of the questionnaire. A factor analysis with orthogonal varimax rotation was conducted for data reduction. Modifications were made according to the subject suggestions and the results of factor analysis.

3.3. The sampling method

In this study, the proportionate stratification or uniform sampling fraction was conducted for leisure traveler’s survey sampling. Because a proportionate stratified sample can be more precise than stratified random sampling of the sample size. In addition, the researchers can control the sample sizes in the strata, rather than being randomly determined by the sampling processes (Kalton, 1983). In order to fulfill the requirement of stratification, the population proportions in the strata were calculated and it was possible to draw separate samples from each stratum.

3.4. Data analysis

Exploratory factor analysis with varimax rotation was conducted to create new variable index and reduce the service quality questionnaires how subjects regard service quality variables to final dimensions. And the principle component method was performed on transforming a given set of variables into a new set of composite variables that are uncorrelated to each other (Hair, Anderson, Tatham, & Black, 1998). Factor loadings of variables were greater than or equal to .50 are chosen to form a factor and the factors with eigenvalues greater than or equal to 1 were significant. For assessing the internal consistency reliability, Cronbach’s alphas has been calculated to examine the stability of each variable in each new index. The reliability coefficients for each factor that is greater than or equal to 0.70 values were considered to accept (Nunnally, 1978).

In order to examine the service quality perspective of leisure travelers and
hoteliers, K-Means cluster analysis was conducted and determined whether they would be grouped into identifiable patterns based on their perspective by using hierarchical agglomerative method. It is imperative to select the clustering variables focusing on the research questions (Jurowski & Reich, 2000). In this study, the purpose is to compare the perspectives of hotel service quality between leisure travelers and hoteliers; the clustering variables would be the perspectives of hotel service quality.

Analysis of variance (ANOVA) indicated the significant group differences between dependent variables. It was concerned with different service quality perspectives between the clusters because the analysis is appropriate when the independent variables are categorical in nature and the dependent variables have an interval quality. To examine the variations, post hoc tests were performed. The independent sample t-tests were used to compare the different perspectives with regard to service quality between leisure travelers and hoteliers in Taiwan hotel industry.

4. Results and discussion

4.1. Service quality factors

It is primary for hotel business to comprehend the internal factors of service quality that influence delivery high quality of service experience. Principle component factor analysis with orthogonal varimax rotation was conducted to create new variable index and reduce the service quality questionnaires how subjects regard service quality variables to final dimensions. The rotated factor matrix identified seven underlying factors relating to the 75 service quality items.

The seven factors of leisure travelers accounted for 65.3% of the variance and 73.2% of the variance for the hoteliers questionnaire. For each factors, reliability analysis with Cronbach’s Alpha was computed to examine the reliability and internal consistency. These factor domains, number of items, eigenvalues, explained variance, Cronbach’s Alpha, and factor loading range were shown in Table 2 and Table 3. The minimum Alpha value of 0.5 was considered acceptable as an indication of reliability and internal consistency for basic research (Nunnally, 1978). The Alpha values of the factors in both groups ranged from .74 to .99 and were considered good indicators of service quality perspectives in Taiwan. The table didn’t show the factor loadings that were greater then 0.5 and items because of there are 60 and 58 items eventually in these factors. The results of factor analysis showed there were seven different domains/factors to represent the service quality respectively for leisure travelers and hoteliers. The retained items of the seven factors decided the name of the factors for both groups.
Table 2  Factor analysis of service quality perspective of leisure travelers

<table>
<thead>
<tr>
<th>Factor Domain</th>
<th>Number of Items</th>
<th>Eigenvalues</th>
<th>Percent of Variance</th>
<th>Cronbach’s Alpha</th>
<th>Factor Loading Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Server*</td>
<td>17</td>
<td>23.3</td>
<td>32.3%</td>
<td>0.94</td>
<td>.54--.76</td>
</tr>
<tr>
<td>2. Facility</td>
<td>17</td>
<td>6.6</td>
<td>11.5%</td>
<td>0.94</td>
<td>.52--.70</td>
</tr>
<tr>
<td>3. Management</td>
<td>7</td>
<td>3.8</td>
<td>7.6%</td>
<td>0.90</td>
<td>.53--.78</td>
</tr>
<tr>
<td>4. Appearance</td>
<td>8</td>
<td>2.1</td>
<td>5.2%</td>
<td>0.88</td>
<td>.50--.79</td>
</tr>
<tr>
<td>5. Promotion</td>
<td>4</td>
<td>1.9</td>
<td>3.8%</td>
<td>0.78</td>
<td>.51--.58</td>
</tr>
<tr>
<td>6. Speed of service*</td>
<td>5</td>
<td>1.7</td>
<td>3.3%</td>
<td>0.81</td>
<td>.56--.64</td>
</tr>
<tr>
<td>7. Information</td>
<td>2</td>
<td>1.2</td>
<td>1.6%</td>
<td>0.82</td>
<td>.80--.84</td>
</tr>
</tbody>
</table>

* The factor domains came from the second part of questionnaire.

Table 3  Factor analysis of service quality perspective of hoteliers

<table>
<thead>
<tr>
<th>Factor Domain</th>
<th>Number of Items</th>
<th>Eigenvalues</th>
<th>Percent of Variance</th>
<th>Cronbach’s Alpha</th>
<th>Factor Loading Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Server*</td>
<td>17</td>
<td>17.2</td>
<td>28.9%</td>
<td>0.99</td>
<td>.80--.97</td>
</tr>
<tr>
<td>2. Facility</td>
<td>22</td>
<td>13.1</td>
<td>19.1%</td>
<td>0.94</td>
<td>.51--.79</td>
</tr>
<tr>
<td>3. Management</td>
<td>7</td>
<td>5.1</td>
<td>8.3%</td>
<td>0.88</td>
<td>.59--.81</td>
</tr>
<tr>
<td>4. Speed of service*</td>
<td>4</td>
<td>3.2</td>
<td>5.8%</td>
<td>0.93</td>
<td>.86--.91</td>
</tr>
<tr>
<td>5. Appearance</td>
<td>3</td>
<td>2.1</td>
<td>4.2%</td>
<td>0.82</td>
<td>.55--.69</td>
</tr>
<tr>
<td>6. Safety</td>
<td>2</td>
<td>1.6</td>
<td>3.5%</td>
<td>0.74</td>
<td>.67--.74</td>
</tr>
<tr>
<td>7. Foodservice</td>
<td>3</td>
<td>1.4</td>
<td>3.3%</td>
<td>0.79</td>
<td>.54--.68</td>
</tr>
</tbody>
</table>

* The factor domains came from the second part of questionnaire.

The leisure travelers regarded Promotion and Information that the hotels can provide as the index of service quality. One possible explanation is that the leisure time increased suddenly in Taiwan because of a five-day workweek implementation and people didn’t know the purposes or destination of their travels. In addition, there were 50 percent of international tourist hotels have establish web sites but over four million people in Taiwan using the Internet to look for the information, including the hotel information (Wan, 2002). Therefore, they need the information and promotion activities from the hotels such as using the website of particular hotel.

For the hoteliers, there were two different factors from leisure travelers’ perspectives. They were Safety and Foodservice that possibly came from the regulations such as HACCP and GSP. In addition, the foodservice in hotels was the largest part of net income and hoteliers thought the sanitation and quality of food as
the important index of service quality assessment for customers.

4.2. The comparison of service quality perspectives between leisure travelers and hoteliers

An independent sample t-test was conducted to assess the significant differences of hotel service quality perspectives between leisure travelers and hoteliers. The results showed that leisure travelers had different perspectives regarding to hotel service quality from the hoteliers (t = 3.66, P < .0001). Five factors in each group were same and they are Server, Speed of service, Facility, Management, and Appearance factors. The results also revealed that the Facility (t = -10.46, p < .0001), Management (t = 4.76, p < .0001), Speed of service (t = 5.19, p < .0001), and Appearance (t = 3.61, p < .0001) were statistically significant between leisure travelers’ and hoteliers’ perspectives. It seems that these significant differences concentrated on the functional and procedural aspects of service. No statistically significant was found on Server factor (t = -1.67, p > .05) in their perspectives.

Overall, the investigation suggested that the leisure travelers and hoteliers had different perspectives of hotel service quality. The primary difference came from the Facility, Management, Speed of service, and Appearance factors rather than Server factor. Both leisure travelers and hoteliers regarded servers as important index of hotel service quality in Taiwan that guest contact employees played important role of delivery high quality of service experience. Most of the customer evaluated the service quality and determined the level of satisfaction during service encounter (Enz & Siguaw, 2000). In contrast to this finding, employee factors didn’t function for hotel service quality by extending the SERVQUAL model in USA (Mount, 1997). Nevertheless, some experts in hospitality industry tried to find some ways to build their service strengths and improve the service quality by focusing on service audits of servers or guest contact employees service (Brownell & Jameson, 1996; Martin, 1986).

4.3. The comparisons of service quality perspectives derived from cluster analysis

Cluster analysis was encouraged to use and develop classifications of customer groups for hotel market segmentation that is a means of increasing marketing sales (Jurowski & Reich, 2000). Segments of leisure travelers with similar perspectives were established through a cluster analysis. Comparing the results of two, three, four, and five clusters, the three-cluster solution was chosen for further one-way ANOVA because of having greatest difference between three clusters (Kennedy, Best, & Kahle, 1988). The results of cluster analysis and further ANOVA test were shown in Table 4.
Table 4  The one-way ANOVA test of service quality perspectives for three leisure travelers clusters

<table>
<thead>
<tr>
<th>Factor</th>
<th>Segment 1 Mean</th>
<th>Segment 2 Mean</th>
<th>Segment 3 Mean</th>
<th>F</th>
<th>Post Hoc tests(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Server</td>
<td>6.56</td>
<td>5.56</td>
<td>6.51</td>
<td>327.2(^*)</td>
<td>1&gt;2; 3&gt;2</td>
</tr>
<tr>
<td>2. Facility</td>
<td>5.58</td>
<td>5.41</td>
<td>6.47</td>
<td>340.3(^*)</td>
<td>3&gt;1; 2&gt;3</td>
</tr>
<tr>
<td>3. Management</td>
<td>5.43</td>
<td>4.57</td>
<td>5.96</td>
<td>332.7(^*)</td>
<td>1&gt;2; 3&gt;3; 3&gt;1</td>
</tr>
<tr>
<td>4. Appearance</td>
<td>4.28</td>
<td>5.43</td>
<td>6.30</td>
<td>576.3(^*)</td>
<td>2&gt;1; 3&gt;1; 3&gt;2</td>
</tr>
<tr>
<td>5. Promotion</td>
<td>6.34</td>
<td>5.67</td>
<td>6.64</td>
<td>261.9(^*)</td>
<td>1&gt;2; 3&gt;1; 3&gt;2</td>
</tr>
<tr>
<td>6. Speed of service</td>
<td>6.68</td>
<td>5.67</td>
<td>6.61</td>
<td>310.7(^*)</td>
<td>1&gt;2; 3&gt;2</td>
</tr>
<tr>
<td>7. Information</td>
<td>6.22</td>
<td>4.39</td>
<td>6.07</td>
<td>317.5(^*)</td>
<td>1&gt;2; 3&gt;2</td>
</tr>
</tbody>
</table>

n (N=1084) 133 328 623  
Name Service Not Holistic  
Encounter Management  

\(^a\) Post hoc tests based on Scheffe’s p < .05;  \(^b\) Means were calculated from a 7-point Likert scale (from 1=strongly disagree to 7 = strongly agree);  \(^*\) p < .0001

Of the three leisure travelers clusters, this segment (n=133) had lowest mean of Appearance domain but regarded the Server and Speed of service factors as important index of hotel service quality. For these leisure travelers, they were interested in the process of service encounters in hotel. Segment 2 leisure travelers (n = 328) placed little attention on Management and Information domains that the government coerced service industry for Good Store Practice regulations. When compared to other segments, segment 3 (n = 623) viewed all the domains of hotel service quality importantly. Therefore, by using the holistic to describe the perspectives of these leisure travelers. It was also the largest segment in leisure travelers. Since this study investigated the service quality perspectives of all the hotels in Taiwan, the hoteliers can know how the competitors manage the service quality system in order to create their own market positioning. Two independent clusters emerged for hoteliers. The results of cluster analysis and further independent sample t-test were shown in Table 5.

5. Conclusion

Even though LODGQUAL, the hotel quality instruments, were recommend to hotels by administering periodically to track the service quality trend (Getty, 1994). It is hard for the hotels in Taiwan to conduct these quality instruments practically because of different culture and regulations. These hotel quality instruments just can be tailored to meet the needs of individual hotels based on their different marketing
strategies or business goals because there was a significant different between the service quality measures and different cultural groups (Armstrong et al., 1997).

Table 5  The t-test of service quality perspectives for two hoteliers clusters

<table>
<thead>
<tr>
<th>Factors</th>
<th>Cluster 1 Mean</th>
<th>Cluster 2 Mean</th>
<th>t value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Server</td>
<td>6.73</td>
<td>5.62</td>
<td>6.03*</td>
<td>.000</td>
</tr>
<tr>
<td>2. Facility</td>
<td>5.57</td>
<td>4.91</td>
<td>7.38*</td>
<td>.000</td>
</tr>
<tr>
<td>3. Management</td>
<td>6.28</td>
<td>5.36</td>
<td>7.69*</td>
<td>.000</td>
</tr>
<tr>
<td>4. Speed of Service</td>
<td>6.94</td>
<td>6.35</td>
<td>6.74*</td>
<td>.000</td>
</tr>
<tr>
<td>5. Appearance</td>
<td>6.57</td>
<td>5.72</td>
<td>7.23*</td>
<td>.000</td>
</tr>
<tr>
<td>6. Safety</td>
<td>6.81</td>
<td>5.79</td>
<td>6.50*</td>
<td>.000</td>
</tr>
<tr>
<td>7. Foodservice</td>
<td>6.58</td>
<td>5.87</td>
<td>5.54*</td>
<td>.000</td>
</tr>
</tbody>
</table>

n (N=1084)         | 108           | 78             |

* Means were calculated from a 7-point Likert scale (from 1 = strongly disagree to 7 = strongly agree);  * p < .0001

The fundamental intent of this study was to compare the different perspectives with regard to service quality between leisure travelers and hoteliers in Taiwan. Based on this purpose, the hotels can know the key differences between customers’ and their own perspectives of service quality. Both points of views for hotel service quality provided the hotels a service quality blueprint to understand customer satisfaction. To retain or increase repeat business, knowing how leisure travelers perceive the hotel service quality is dramatically vital for hoteliers to differentiate from competitors and build good word-of-mouth publicity (Choi & Chu, 2001; Chu & Choi, 2000; Lewis, 1987).

This study was preliminary and served as a guide for future development of service quality measurements. Moreover, it also tried to play a role of building total service quality system for the hotels in Taiwan. The result of cluster analysis served as a reference of selecting target market and developing marketing strategies for hoteliers. After identifying the travelers’ needs and knowing the general perspectives of competitors, the hoteliers can be ready to allocate the resources to achieve their business goals. In order to enhance APROC image in the world, the hoteliers in Taiwan should provide high service quality to customers by knowing the perspectives of travelers and their own.

References
Armstrong, R. W., Mok, C., & Go, F. M. (1997). The importance of cross-cultural expectations in the measurement of service quality perceptions in the hotel
Arbor, MI: University of Michigan.


industry. Journal of Hospitality & Leisure Marketing, 3(2), 45-64.