

Developing an Economy-Hotel Service Quality Scale in a Non-smoking Environment

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Objectives: Sustainability of the non-smoking environments remain a challenge, as the effect declines over time due to inadequate regulations and incomplete law enforcement. The hotel industry is even more obliged to promote non-smoking environment policies. Numerous studies have explored the dimensions of hotel service quality; however, most of them have been conducted for international tourist hotels. Studies on the service quality of economy-hotel are scarce. The present study developed a reliable and valid scale for measuring service quality for business travelers. The components of the economy-hotel service quality (EHSQ) scale were reconstructed according to theoretical definitions and a literature review, in which the variables representing EHSQ characteristics were adopted. This study administered a survey among hotel business travelers to ensure the validity of this scale, which yielded 472 valid responses. Following factor analysis, item-to-response, and correlation analysis, 5 dimensions with 24 items were extracted, namely reliability, facility, empathy, pleasantness, and rooms and dining. In conclusion, this developed scale is a valid service quality measurement in the economy-hotel industry. Finally, economy-hotels are very competitive in providing better service quality and a non-smoking environment.

Keywords: service quality; economy-hotel; scale development; non-smoking environment

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INTRODUCTION

Smoking is an epidemic globally affecting almost everyone; it is recognized as one of the leading global cause of death. However, sustainability of the non-smoking environments remains a challenge, as the effect declines over time due to inadequate regulations and incomplete law enforcement.¹ The hotel industry is even more obliged to promote non-smoking environment policies. Economy-hotels in China have recently received attention because of the country's strong economic growth and the

consequent success of economy-hotel development. Because of a great increase of business travelers in China, suitable accommodation choices in traditional hotel sectors are limited.² High-end hotels are typically excessively priced for general business travelers, whereas poorly run guesthouses are unstable and lack quality. A substantial portion of these business travelers demand low-cost accommodation options. Economy-hotels have been increasing in China.³ The Taiwan economy-hotel industry shares similar characteristics with that of China. The hotel industry in Taiwan has

grown rapidly. Taiwan opened its tourism resources to Chinese tourists in 2008, signifying the beginning of stronger economic ties with China. The growth of the tourism market is expected to create a substantial demand for hotels. The number of foreign tourists to Taiwan continues to rise, providing a development opportunity for Taiwanese hotels. Researchers have been interested in the service quality of various hospitality industries for some time.⁴

In the past few decades, the global smoking situation has also undergone tremendous changes. Many countries have introduced regulations to restrict smoking, committed to reducing tobacco consumption and reducing the risks associated with smoking.⁵ According to the 2014 Surgeon's Report, People who use tobacco remain the leading cause of preventable diseases and deaths in the United State, with at least 480,000 deaths each year.⁶ Although numerous studies have explored the dimensions of hotel service quality, most of them have been conducted at the international tourist hotel level. The rapidly growing economy-hotels in China and Taiwan have gradually attracted the attention of academic researchers, despite scarce academic results. Empirical evidence on the service quality of these economy-hotels and the expectations of business travelers is limited.⁷ A service quality scale that business travelers perceive to be relevant and that targets this market sector is of substantial interest to economy-hotels. However, previous results have not clearly identified influential factors on the service quality of economy-hotels. To fill this gap, The LODGSERV model serves as the preliminary foundation for the present study. Those influencing dimensions represent various means by which employees can alter their service attitude or behavior. Business travelers must receive more diversified and functional services than leisure travelers do, and a substantial difference exists in service quality between general- and economy-hotel industries. Therefore, exploring the service quality of economy-hotels is warranted. The scale is expected to facilitate decision-making regarding services provided by economy-hotels and support enhanced allocation of funds in the industry.

LITERATURE REVIEW

Service quality in the lodging industry has been numerously studied and a lot of studies have inspected the various dimensions of hotel service quality from the customers' perspective.⁸ Various levels of hotels are strongly associated with diverse structures of functional quality that highlight hotel positioning. For example, economy-hotels focus more on business travelers than motels do. This study was originally designed to analyze the current moderately priced economy-hotels in Taiwan, and a literature review confirmed the underlying measures of service quality in those of hotel industries. We advanced the scale to elucidate the features of this specific segment.

The Trends of Service Quality Research

The concept of service quality, first proposed in the late 1970s, refers primarily to commercial goods. Based on this concept, Parasuraman et al. proposed a model for evaluating service quality, which were regarded as breakthroughs in this field. They divided service quality into 10 dimensions and further developed a measurement scale consisting of 22 items within five dimensions of service quality (SERVQUAL),^{9,10} although the dimensions were criticized as overlapping.¹¹ Other scholars have developed various methods for evaluating service quality on basis of original research results, and such methods have been applied to various service industries such as the travel, restaurant, and hotel industries.^{12,13} SERVQUAL is the most widely used measuring tool because it is simple and easy to apply. However, certain scholars have questioned the practicality, effectiveness, and reliability of the scales.^{14,15} Consequently, numerous scholars have tried to use other scales as an alternative in their research. Therefore, new scales have subsequently been adapted for use in various industries, resulting in the development of scales such as the LODGSERV scale, measuring service quality in the lodging industry.¹⁶ Based on the five dimensions of SERVQUAL, the model comprises 26 items on the experiences of hotel patrons. Getty and Thompson developed LODGQUAL, a research model for evaluating hotel facilities. Heung and Wong employed the LODGSERV model to evaluate

customer expectations on the service quality of Hong Kong hotels.¹⁷ HOTELQUAL has been applied to evaluate the quality of lodging services,¹⁸ and HISTOQUAL was employed in research on historic houses.¹⁹ Also based on the five dimensions of SERVQUAL, Mei, Dean, and White developed the HOLSERV model, which comprises 27 items. The scale was tested on customers staying at hotels in Australia.²⁰ Tsang and Qu (2000) measured the expectations and perceptions of international tourists regarding the service quality of Chinese hotels.²¹ Subsequently, they modified the SERVQUAL model and derived 35 characteristics of hotel services. Marković employed the SERVQUAL model to explore the expectations and perceptions toward service quality in Croatia's hotel industry.²² Khan developed an ECOSERV model for measuring the perceived service quality of ecotourism.²³ The DINESERV model was employed to investigate the restaurant industry. Akbaba adapted the SERVQUAL model to contain 29 items for evaluating service quality and applied it to measure the expectations and perceptions of Turkish business travelers for service quality. The SERVQUAL model has also been used extensively to assess the hotel service quality in Hong Kong, China, Poland, Germany, Croatia, and Slovenia.²⁴ This shows that the SERVQUAL model has had a profound influence on research investigating service quality.

Importance of the Economy-hotel Service Quality Scale

Excellent service quality improves business performance of businesses in tourism and services industries.²⁵ Various business performance indicators are positively correlated with service quality. Even when prices increase, higher service quality ensures competitive advantage in the hospitality context.²⁶ Previous studies have shown that most travelers consider service quality a crucial hotel attribute when choosing a hotel.²⁷ The quality models presented provide relevant data for service sectors attempting to improve their service quality. Over the past few decades, numerous countries have begun considering services and tourism industries as drivers of economic development. Consequently, service quality has attracted considerable attention, becoming a critical factor in deriving

competitive advantages and improving operational efficiency. Hoteliers must ensure high service quality for guests for optimizing customer satisfaction.²⁸

Economy-hotels initially attempted to provide basic accommodation; however, this approach failed because of rapid economic development and diversified customer needs. Some travelers choose economy-hotels because they prefer hotel functionality, whereas other travelers select an economy-hotel from brand chains with which they are familiar. The final purchasing motives are formed from combinations of complex factors. Among various service quality assessment models, the SERVQUAL scale is widely used and referenced in other studies. Some studies have shown that the SERVQUAL scale is not universal because the dimensionality of service quality was apparently relied on the examining type of service.²⁹ Thus, this study focused on measuring service quality provided by economy-hotels for developing the EHSQ scale, based on the LODGSERV model concept. The results are expected to provide directions for economy-hotels from the customer perspective and to serve as a critical reference for future operations in economy-hotels.

SCALE DEVELOPMENT

Few studies have measured the service quality attributes of economy-hotels. Akbaba investigated service quality from the customer expectations of economy-hotels. The findings verified that even though the SERVQUAL scale was useful, it should be applied to exact service segments and for the cultural context within which it is used. Few studies have provided comprehensive information in this aspect. Therefore, we perceived the necessity of developing such an instrument. The current study modified the following steps originally recommended by Churchill³⁰ and Gerbing and Anderson.³¹ The scale development was conducted in three stages: (a) generating items to reflect five dimensions of the scale and pretesting; (b) data collection and scale purification, and (c) confirmation factor analysis of the scale structure, reliability, and validity of the EHSQ scale.

Scale Item Generation and Pretesting

The scale was based on the five dimensions and 26 items from the LODGSERV model. To identify specific facets of economy-hotel services, we conducted in-depth interviews with five senior managers of the hotel industry. These interviewees were asked to provide answers based on their observation or experience of economy-hotel services. The duration of each interview was between 90 and 120 min. With reference to LODGSERV items, a questionnaire blueprint was developed from the interview results. The first draft acquired was evaluated through discussions, in which certain wordings were adjusted and unfitted questions were removed. The number of items was increased from 26 to 77 (Appendix).

Following revision of the instrument by the authors, the pretest questions were employed. Introductory description and sociodemographic questions were also added. The participants were asked to score each item on a 5-point Likert scale varying from “extremely important” (5) to “extremely unimportant” (1). The purpose of the pretest was to help clarify the questionnaire and improve the usability of the instrument. The participants in the pretest phase were primarily recruited from students pursuing an executive master’s degree in business administration at Fu-Jen University in Taiwan who were employed in the hospitality, hotel, or restaurant industries. The students surveyed in this research were full-time workers studying in a Master’s in hospitality program on evenings or weekends. Knowledge about the hospitality industry that the students had gained enabled them to develop a more comprehensive understanding of hotel accommodation compared with knowledge of

general customers. Therefore, the information that these students provided is of practical and referential value. Although graduate students are not representative of all the sample units of the analysis, they have been frequently used in research pretests on hospitality and service quality topics. The participants were instructed to rate each service attribute according to their perceived importance. The pretest was conducted to ensure the representativeness of consumer considerations on service quality.

Among the collected responses, 109 of 120 were valid. Based on the questionnaires, we adopted an iterative procedure to develop the EHSQ scale and to refine the items. We first verified the appropriateness of each item by conducting an item analysis process, including addressing missing values, conducting descriptive statistics (particularly inspecting average value and standard deviation), the independent *t* test, and the homogeneity test (analysis of correlation coefficient and factor loadings). In addition to item analysis, we also conducted factor analysis and reliability analysis to delete inappropriate items. Consequently, 46 items appeared to understand traveler perceptions and expectations of EHSQ. Following further inspections by experienced professionals and the researchers of this study, the number of items was reduced from 46 to 33 (Table 1). The 33 items were divided into five dimensions. According to the original LODGSERV scale, the revised EHSQ scale consists of 10 items for tangibles, 5 items for reliability, 6 items for assurance, 3 items for responsiveness, and 9 items for empathy.

Table 1
33 scale items retained for EHSQ

Construct	Item No.	Scale items
<i>Tangibles</i>	TANG01	1.Service staff wear well-fitting and attractive uniforms
	TANG02	2.The restaurant offers fine and diverse gourmet dining
	TANG03	3.Beautiful and functional furniture in guest rooms
	TANG04	4.Guest rooms with high quality sanitary equipment
	TANG05	5.Hotel uses advanced building materials and is decorated according to its brand positioning
	TANG06	6.Attractive building exterior
	TANG07	7.Luxurious reception hall
	TANG08	8.Hotel with ancillary facilities such as meeting rooms, business center, gym, swimming pool, and sauna
	TANG09	9.Rooms with a large Jacuzzi
	TANG10	10.Rooms with a washlet toilet
<i>Reliability</i>	REL01	11.Facilities and equipment well maintained and properly functioning

Construct	Item No.	Scale items
	REL02	12.Front desk staff provide efficient check-out service
	REL03	13.Service staff admit mistakes and make appropriate compensation efforts
	REL04	14.Timely supply of food
	REL05	15.Airport transfer or shuttle departs and arrives on time
<i>Responsiveness</i>	RESP01	16.Staff conduct fluent check-in and check-out procedures, and show appropriate concern for customers
	RESP02	17.Staff from various departments are willing and able to support each other
	RESP03	18.Special advice of short-term itinerary for customers
<i>Assurance</i>	ASSU01	19.Service staff are courteous and exhibit good manners
	ASSU02	20.Fresh air and clean environment
	ASSU03	21.Quiet environment
	ASSU04	22.Service staff are authorized to provide customers appropriate compensation or discounts
	ASSU05	23.Hotel brochure offers introduction to hotel facilities and events, as well as information on nearby attractions
	ASSU06	24.Guests receive fine treatment from various reservation channels
<i>Empathy</i>	EMP01	25.Customers receive a welcome letter, fruit, or flowers after check-in
	EMP02	26.Hotel sends a card and gift to guests on their birthdays or anniversaries
	EMP03	27.Service staff provide warm and friendly service attitudes, showing affinity
	EMP04	28.Guests complaining to low-level staff receive instant response from the supervisor
	EMP05	29.Service staff put themselves in guests' place and offer appropriate services
	EMP06	30.24-hr cab service
	EMP07	31.Hotel provides prompt services to guests and thinks according to guest perspectives
	EMP08	32.Hotel puts customer interests as the first priority instead of adhering to procedures
	EMP09	33.Hotel is willing to provide special menus or cooking methods for special needs

Data Collection and Scale Purification

Data collection

To finalize the dimensions and condensing the items of the EHSQ scale, we administered a formal survey to elicit responses from business travelers. The investigation was implemented for 3 weeks between April 21, 2013 and May 12, 2013. A sample of 580 respondents was randomly collected. Respondents were restricted to those who had stayed at least once in economy-hotels within the last 12 months. The questionnaire included a total of 49 items divided into three main sections. The first section consisted of 33 repositioning items, which used a 5-point Likert scale anchored by “strongly agree” (5) to “strongly disagree” (1). In the EHSQ scale, each item contributed to the significance and practicality of the overall scale. The second section comprised nine questions regarding perceived value, customer satisfaction, and postpurchase intention. Subsequently, the nine items were adopted for evaluating the criterion-related validity of the scale, which was measured primarily using the correlation coefficient of the test scores and validity criteria.³² Finally, the sociodemographic (e.g., gender, age, education, and marriage) and other background (e.g., profession, monthly incomes) questions

comprised 7 items.

In total, we collected 580 responses, of which 472 were useable for the data analysis; the effective response rate was 81.4%. Table 2 presents the sample profiles according to the principal sociodemographic characteristics. First, the respondents were 43.4% men and 56.6% women. Second, the sample showed a concentrated distribution of age, with the largest category being 26 to 45 years (61.2%). Regarding education level, 73.7% were at the 4-year college or university level, whereas 17.8% had received a postgraduate degree. For marital status, 47.9% were single and 46.8% were married. In occupation, the category of public administration and teacher had the largest proportion (25.8%), whereas software design development had the smallest (0.6%). Finally, 86% of the respondents reported that their average monthly income was no more than 80,000 NT. Based on the background characteristics, we confirmed that the sample was representative.

Scale purification

We employed exploratory factor analysis (EFA), using the service quality scores to determine the dimensionality of the scale by using SPSS 18.0 software and performed principal component analysis (PCA) by using varimax rotation.³³ To understand whether the hypothesized items

matched the actual service quality attributes, we excluded items with factor loadings low than 0.5. Besides, the items with high loadings on multiple factors were also removed.³⁴ Based on these criteria, we conducted a series of iterations to remove the excluded items. we deleted a total of 4 items. The results of the factor analysis and the associated statistics are showed in Table 3. The author use Kaiser-Meyer-Olkin (KMO) measurement and Bartlett's test of sphericity to confirm that the data has adequate internal relationship to perform the EFA process. The KMO index was 0.948, and

Bartlett's test of sphericity was met at the level of 0.001, which can prove that the use of EFA is reasonable. The scree plot showed that a five-factor solution with 29 items was ideal. The total variance explained was 63.3%, which is greater than the standard value of 50%, indicating that the items can be differentiated clearly between the five dimensions, and that the scale exhibited high construct validity. The factors were reliability, facility, pleasantness, rooms and dining, and empathy.

Table 2
Profiles of the respondents

Variables	Sample (N = 472)	Percentage (%)
<i>Gender</i>		
Male	205	43.4
Female	267	56.6
<i>Age</i>		
25 or below	65	13.8
26–35	145	30.7
36–45	144	30.5
46–55	99	21.0
56 or above	19	4.0
<i>Education</i>		
High school or below	40	8.5
4-year college/university degree	384	73.7
Graduate school	84	17.8
<i>Marital status</i>		
Single	226	47.9
Married	221	46.8
Other	25	5.3
<i>Occupation</i>		
Operation and management	71	15.0
Business marketing and public relations	58	12.3
Tourism and hospitality services	51	10.8
Engineering and technical services	31	6.6
Software design and development	3	0.6
Public administration and teacher	122	25.8
Finance and accounting	30	6.4
Other	106	22.5
<i>Average monthly income</i>		
NT\$30,000 or below	117	24.8
NT\$30,001–50,000	181	38.3
NT\$50,001–80,000	108	22.9
NT\$80,001–100,000	35	7.4
NT\$100,001 or above	31	6

Table 3
Summary results of exploratory factor analysis (N = 472)

Factor/item	Mean	Factor loading	Eigen-value	Variance (%)	α
<i>Factor 1. Reliability</i>			6.17	21.27	0.934
Timely supply of food (REL04)	4.23	.800			
Service staff admit mistakes and make appropriate compensation efforts (REL03)	4.35	.796			
Staff conduct fluent check-in and check-out procedures, and show appropriate concern for customers (RESP01)	4.34	.720			

Factor/item	Mean	Factor loading	Eigen-value	Variance (%)	α
Front desk staff provide efficient check-out service (REL02)	4.29	.718			
Service staff are courteous and exhibit good manners (ASSU01)	4.40	.673			
Fresh air and clean environment (ASSU02)	4.43	.664			
Airport transfer or shuttle departs and arrives on time (REL05)	4.26	.663			
Facilities and equipment are well maintained and properly functioning (REL01)	4.29	.658			
Staff from various departments are willing and able to support each other (RESP02)	4.27	.651			
Quiet environment (ASSU03)	4.45	.597			
Factor 2. Facility			3.77	13.00	0.840
Luxurious reception hall (TANG07)	4.10	.772			
Rooms with a large Jacuzzi (TANG09)	4.07	.748			
Hotel with ancillary facilities such as meeting rooms, business center, gym, swimming pool, and sauna (TANG08)	4.22	.714			
Attractive building exterior (TANG06)	4.25	.667			
Hotel uses advanced building materials and is decorated according to its brand positioning (TANG05)	4.31	.627			
Rooms with a washlet toilet (TANG10)	3.99	.613			
Factor 3. Pleasantness			3.02	10.41	0.840
Guests receive fine treatment from various reservation channels (ASSU06)	4.35	.648			
Guests complaining to low-level staff receive instant response from the supervisor (EMP04)	4.40	.615			
Hotel brochure offers introduction to hotel facilities and events, as well as information on nearby attractions (ASSU05)	4.26	.608			
24-hr cab service (EMP06)	4.15	.608			
Service staff provide warm and friendly service attitudes, showing affinity (EMP03)	4.41	.591			
Factor 4. Rooms and Dining			2.78	9.60	0.790
Guest rooms with high quality sanitary equipment (TAN04)	4.45	.731			
Beautiful and functional furniture in guest rooms (TAN03)	4.37	.729			
Service staff wear well-fitting and attractive uniforms (TAN01)	4.26	.671			
The restaurant offers fine and diverse gourmet dining (TAN02)	4.42	.667			
Factor 5. Empathy			2.61	9.01	0.818
Hotel is willing to provide special menus or cooking methods for special needs (EMP09)	4.32	.699			
Hotel puts customer interests as the first priority instead of adhering to procedures (EMP08)	4.53	.695			
Hotel provides prompt services to guests and thinks according to guest perspectives (EMP07)	4.47	.661			
Service staff are authorized to provide customers appropriate compensation or discounts (ASSU04)	4.38	.576			

Among the five remaining factors, the highest eigenvalue of the reliability factor is 6.17. The finding indicated that customers highly emphasized reliability related to confidence, correctness, and commitment, and regarded it as essential to supplied services. The Cronbach's α values of the five factors were between 0.790 to 0.934, indicating acceptable internal consistency among the items for each dimension. The combined reliability of all items was 0.947. Table 3 shows the quality attributes and corresponding factor loadings of all factors. Compared the five extracted factors with the five dimensions proposed by the LODGSERV model, one of the five proposed dimensions, reliability, remained distinct. We divided another proposed dimension, tangibles, into two new distinct dimensions (facility, and rooms and dining in Table 3). The other two dimensions, empathy and assurance, were integrated into two distinct

dimensions (pleasantness and empathy in Table 3), each item was based on two of the five original dimensions. Although combining two dimensions to develop a new dimension is unconventional, this approach was adopted by Llosa et al., who employed the SERVQUAL model to obtain dimensionality-converging results. A plausible explanation is that cross-dimension similarities or commonality might cause fewer factors than our expected goal. Regarding reliable internal consistency, we confirmed the 29-item instrument for large-scale data processing and confirmatory factor analysis (CFA).

Confirmatory Factor Analysis, Reliability, and Validity of the EHSQ Scale

Results of CFA

To verify the factor structure, we conducted CFA with maximum-likelihood estimation, using the AMOS 21 software. The 29-scale items were tested with a first-order analysis to identify the

dimensions as a mutually correlated relationship. Firstly, we examined whether the samples could be pooled before conducting an iterative elimination process. Thus, 5 items were deleted from the planned measurement scale. The 4 items (REL03, REL05, RESP02, and ASSU03) that had been considered to represent the reliability subdimension were all deleted. This is because although business travelers believed these service attributes to be relevant, they are not critical or obligatory for

economy-hotels. One item (ASSU05) of the pleasantness dimension was deleted. Business travelers unconcerned about ancillary information such as a service guide, information on hotel amenities or events, or information on nearby attractions. Such item-elimination methods made the pool sufficiently concise. Table 4 illustrates the goodness-of-fit indices for alternative models of the scale, containing with or without item elimination.

Table 4
Goodness-of-fit indices for alternative models of the EHSQ scale

Scale	Chi-sqr(df)	Chi-sqr/df	GFI	AGFI	CFI	RMSEA
Initial scale (29 items, first-order factors)	1094(367)	2.98	.861	.836	.908	.065
Revised scale (24 items, first-order factors)	653(242)	2.70	.898	.873	.930	.060
Final scale (24 items, second-order factors)	682(247)	2.76	.894	.872	.926	.061

Furthermore, the intercorrelation between the dimensions and items ranged from 0.52 to 0.86, indicating that higher-order dimensions exist. Adopting the method recommended by Dabholkar et al. A second-order factor model was developed and compared it with the previous first-order factor model. The second-order model comprised five factors. The results show that the second- and first-order models yielded similar results in an analysis of fitness measures (Table 4). Table 4 also illustrates the analysis results for the final set of 24 items that comprised the EHSQ scale. The results of all evaluation parameters were positive, and the level of significance was less than 0.05. Fitness indices commonly used to measure models included GFI, AGFI, CFI, and RMSEA. As shown in Table 4, the overall fitness of the model (chi-square/df ratio) was 2.76, which was slightly greater than the standard value. The standard value, as recommended by Carmins and McIver,³⁶ should be between 2 and 3. In summary, the fitness indices of the model were all within an acceptable range (GFI = 0.894, AGFI = 0.872, CFI = 0.926, RMSEA = 0.061).

In addition, the target coefficient index (the chi-square ratio of the first-order model to the chi-square of the higher-order model) is an index used to prove a

higher-order construct's existing.³⁷ The value acquired in this study was 0.96, which shows the extent to which the higher-order factor model explains covariation among the first-order factors and can be accounted for the percentage of variation in the first-order factors that can be clarified by the second-order construct. Marsh and Hocevar recommended that for a first-order factor model to be combined with a higher-order dimension model, the target coefficient should approach 1. The target coefficient obtained in this research was 0.96, satisfying this criterion. These results justify using a second-order model in this study. This suggested that business travelers evaluated EHSQ based on the five dimensions, but also regarded the EHSQ scale as a higher-order factor. Business travelers evaluated the service quality of economy-hotels as a whole rather than evaluating it separately.

Construct Validity

We assessed scale validity based on its discriminant validity and construct convergence validity. The function of convergence validity is to determine whether all the item factor loadings are significant. Gerbing and Anderson suggested that discriminant validity could be assessed by constraining the correlation between each pair of factors to unity.³¹ This study used CFA to examine

the factorial structure of the sources. The factor loadings, squared multiple correlations (SMC), t values, composite reliability (CR), and average variance extracted (AVE) of the results was shown in Table 5. All of the model parameters were reasonable and in line with expectation. The item factor loadings were between 0.52 and 0.83, and the t values varied from 8.60 to 16.52. All of these were statistically important. The SMCs were between 0 and 1, indicating the reliability of the measured items. Most of the SMCs were higher than 0.3,³⁷ shows that all latent variables are effectively reflected by their measurement items. In addition, the CR indicators of the five factors ranged from 0.796 to 0.902, which exceeded the recommended level of 0.700, showing that internal consistency of the five factors is acceptable. We obtained evidence of convergent validity in the factors' AVE coefficients. Except for one with 0.48, all the values met the criterion requirement (> 0.500).³⁸

In addition, we performed a second-order confirmatory factor analysis (CFA) to confirm the discriminant validity. The results facilitated identifying the correlations between the 24 items in the model, measuring the fitness, and testing the appropriateness of the model. Using these methods, we accurately identified the service quality customers require and service attributes customers value. The CFA results in Table 5 indicate that the EHSQ scale of the second-order factor model comprised five importance dimensions: reliability, facility, pleasantness, rooms and dining, and empathy. Each factor consists of multiple items, varying from 4 (pleasantness, rooms and dining, empathy,) to 6 (reliability, facility). In conclusion, EHSQ, the new scale proposed by this research, consists of 24 items. Table 6 shows a final comparison between the LODGSERV and the EHSQ dimensions.

Table 5
Results of confirmatory factor analysis of final 24-scale items (second-order factor)

Factor/item	Mean	Factor loading	SMC	t value	CR	AVE
Factor 1. Reliability	4.33				0.902	0.607
Timely supply of food (REL04)	4.23	0.75	.566	12.46		
Staff conduct fluent check-in and check-out procedures, and show appropriate concern for customers (RESP01)	4.34	0.75	.563	12.48		
Front desk staff provide efficient check-out service (REL02)	4.29	0.77	.600	12.24		
Service staff are courteous and exhibit good manners (ASSU01)	4.40	0.83	.694	13.22		
Fresh air and clean environment (ASSU02)	4.43	0.80	.639	13.32		
Facilities and equipment well maintained and properly functioning (REL01)	4.29	0.77	.599	13.19		
Factor 2. Facility	4.16				0.846	0.480
Luxurious reception hall (TANG07)	4.10	0.76	.581	16.26		
Rooms with a large Jacuzzi (TANG09)	4.07	0.68	.462	15.20		
Hotel with ancillary facilities such as meeting rooms, business center, gym, swimming pool, and sauna (TANG08)	4.22	0.73	.539	16.31		
Attractive building exterior (TANG06)	4.25	0.72	.515	16.51		
Hotel uses advanced building materials and is decorated according to its brand positioning (TANG05)	4.31	0.68	.458	15.06		
Rooms with a washlet toilet (TANG10)	3.99	0.57	.326	13.75		
Factor 3. Pleasantness	4.33				0.811	0.520
Guests receive fine treatment from various reservation channels (ASSU06)	4.35	0.72	.520	13.55		
Guests complaining to low-level staff receive instant response from the supervisor (EMP04)	4.40	0.74	.547	11.80		
24-hr cab service (EMP06)	4.15	0.61	.368	13.85		
Service staff provide warm and friendly service attitudes, showing affinity (EMP03)	4.41	0.80	.634	13.35		
Factor 4. Rooms and Dining	4.37				0.796	0.502
Guest rooms with high quality sanitary equipment (TANG04)	4.45	0.82	.547	11.88		
Beautiful and functional furniture in guest rooms (TANG03)	4.37	0.81	.653	12.92		
Service staff wear well-fitting and attractive uniforms (TANG01)	4.26	0.52	.267	8.60		
The restaurant offers fine and diverse gourmet dining (TANG02)	4.42	0.64	.415	13.49		
Factor 5. Empathy	4.43				0.824	0.541
Hotel is willing to provide special menus or cooking methods for special needs (EMP09)	4.32	0.70	.494	16.52		
Hotel puts customer interests as the first priority instead of adhering to procedures (EMP08)	4.53	0.81	.654	13.11		
Hotel provides prompt services to guests and thinks according to guests perspectives (EMP07)	4.47	0.78	.615	13.36		

Factor/item	Mean	Factor loading	SMC	t value	CR	AVE
Service staff are authorized to provide customers appropriate compensation or discounts (ASSU04)	4.38	0.64	.416	15.69		

CR: Composite reliability
AVE: Average variance extracted
SMC: Squared multiple correlations

Table 6
Comparison between the LODGSERV scale with the final version of the economy-hotel service quality (EHSQ) scale

LODGSERV		EHSQ	
Reliability	4 items	Reliability	6 items
Empathy	8 items	Empathy	4 items
Tangibles	6 items	Facility	6 items
Assurance	5 items	Pleasantness	4 items
Responsiveness	3 items	Rooms and Dining	4 items
26 items		24 items	

Dimensions of the EHSQ scale

Figure 1 shows a second-order factor structure covering five dimensions. The five service quality dimensions abstracted are classified as follows:

Factor 1: Reliability. This factor primarily refers to items for measuring service attributes related to the attitudes of service personnel. This factor implies a variety of service attributes such as timeliness, promptness, correctness, and politeness. Factor 2, Facility, composed of service attributes of entities supplied by economy-hotels such as luxurious, attractive, and exquisite. This dimension, which is critical for customer extrinsic perception, encompasses the promises and guarantees the equipment that are fundamental to economy-hotel operations. Factor 3: Pleasantness. This factor refers to service characteristics that service personnel fulfil when interacting with customers. Three of the four items were related to whether service personnel handled customer problems appropriately, such as providing convenient room reservation services as well as demonstrating high responsiveness and friendliness. Another item is related to the 24-hr cab or taxi services available for business-traveler needs. Factor 4, Rooms and Dining, is related to personalized services that an economy-hotel provides for its customers in the rooms or when dining. This factor encompasses high quality sanitary equipment and fully furnished guest rooms. This dimension also includes a meal service that an economy-hotel may provide, including staff

wearing a specially designed uniform or excellent staff performance, which subconsciously affects customer perception of service quality. Factor 5: Empathy. The service attributes in this dimension describe the abilities of service personnel working at economy-hotels in rapidly responding to customer inquiries and questions.

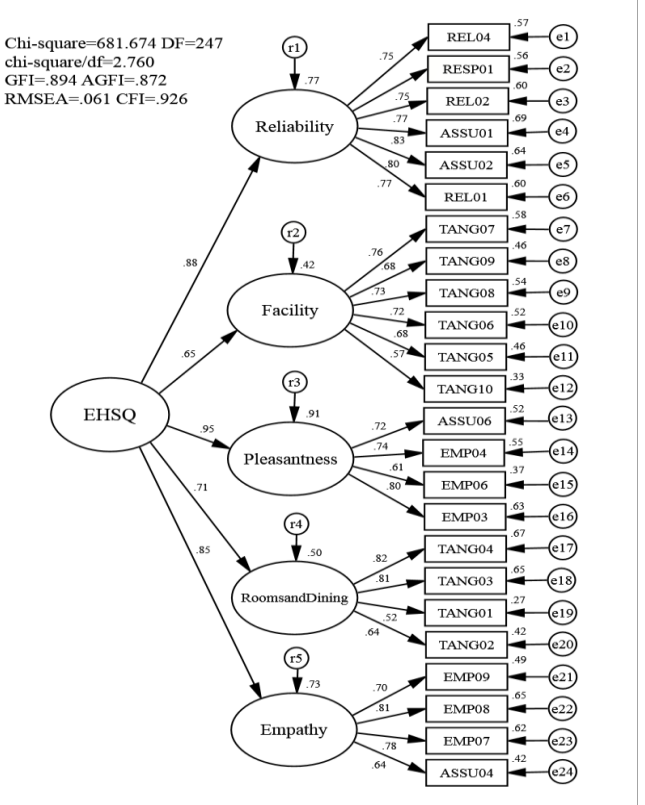


Fig. 1 Second-order factor model of economy-hotel service quality (EHSQ)

Criterion-related validity

Perceived values, customer satisfaction, and

postpurchase intention can affect tourist perceptions of service quality^{39, 40}. Therefore, we investigated respondent perceptions of service quality during their stay at an economy-hotel, using a single-select 5-point rating scale ranging from (5) “strongly agree” to (1) “strongly disagree.” 9 measures were used to examine the relationship between business travelers' perceptions of service

quality using the criterion-related validity. All of the correlation coefficients were >0.05 and all of them reached the level of significance (Table 7). Therefore, the results of criterion-related validity test indicated that the self-developed scale for the service quality of economy-hotels exhibited high validity.

Table 7
Results of criterion-related validity ($N = 472$).

Factor	Measurement items	Service quality
Perceived values	I feel I am getting good services provided by this economy-hotel for a reasonable price	0.183**
	Enjoying the services provided by this economy- hotel is worth sacrificing some time and effort	
	Compared with other economy-hotels, this economy-hotel is a wise choice	
Customer satisfaction	I am satisfied with the services provided by this economy-hotel	0.112*
	I think this economy-hotel has successfully provided services	
	The service provided by this economy-hotel is better than expected	
Postpurchase intention	In the future, I will enjoy the services provided by this economy-hotel again.	0.197**
	In the future, I will recommend the services provided by this economy-hotel to my relatives and friends.	
	In the future, I will continue to enjoy the services provided by this economy-hotel.	

Note: * $p < .05$; ** $p < .01$.

Test–retest reliability

The reliability of the scale must be evaluated according to test–retest reliability to determine whether the same group of participants yielded consistent results in the first and second tests. The two tests were conducted 2–4 weeks apart. Sixty consecutive participants (of the 472) were approached and agreed to be reassessed in this study after completing their first assessment. We assessed test–retest reliability on the retest subgroup by computing intraclass correlation coefficients (ICC, Formula 2.1 summarized by Shrout & Fleiss, 1979) of the five constructs. Interpretation guidelines for ICC were provided by Cicchetti (1994; below 0.40 = poor, 0.40 to 0.59 = fair, 0.60 to 0.74 = good, and 0.75 to 1.00 = excellent). The complete result of ICCs in this research was “excellent” (0.807). The dimension of reliability was valued as “excellent” (0.785), facility as “good” (0.697), empathy as “fair” (0.575), pleasantness as “good” (0.685), and rooms and dining as “fair” (0.538). This total score also showed strong test–retest reliability over a 2 to 4 week period.

CONCLUSION, DISCUSSION, LIMITATION AND FURTHER RESEARCH

Conclusion and Discussion

The current study constructed a multidimensional EHSQ scale for measuring and evaluating the service quality of economy-hotels. We found five pertinent factors of reliability, facility, pleasantness, rooms and dining, and empathy. These subscales have been confirmed to show minimal cross loadings and high reliability coefficients when used to evaluate all forms of economy-hotel service quality. The findings revealed high correlations between these five dimensions and yielded a second-order factor structure. This study is the first to measure all service quality dimensions of economy-hotels. Previous related studies have provided relevant support, but none have conducted evaluations on all five dimensions of service quality in economy-hotel industries. The current study meaningfully transformed the five dimensions and 26 items suggested in the LODGSERV scale into five factors and 24 items. Furthermore, the five factors remained consistent across 24 items of service quality, suggesting that a generic economy-hotel service quality scale may be developed from these items. These findings elucidate the

development of a tool for measuring service quality in economy-hotels where scant prior research has been conducted.

Unlike previous scales, we propose the new factor of pleasantness in our study. The results of this study suggest that pleasantness was the most critical factor in evaluating the service quality of economy-hotels. Business travelers evaluate the service quality of economy-hotels primarily on the basis of pleasantness, resulting from the hotel's appropriate operating manners, immediate response, and ability to offer expected services or satisfy guest needs. Furthermore, for personal safety, business travelers expect the hotel to offer a 24-hr taxi service. The outcome pertaining to these crucial features of enjoyment consequently affects customer postpurchase plan, and perception of service quality the economy-hotel provided. Whether business travelers are male or female, service and staff are two important factors for them to choose a hotel. Knutson (1988) pointed out that the five criteria for business travelers to choose hotels are: clean and comfortable rooms, location, prompt and courteous service, safety and friendly staff. The 4 items of pleasantness basically accord with prompt and courteous service, safety, and friendly staff. This implies the significance of the pleasantness construct for satisfying business-traveler needs.

The factors of Reliability and Empathy are common in most service quality scales; however, in the economy-hotel EHSQ scale, we identified additional dimensions appropriate for measuring the service quality of economy-hotels. The stakeholders of economy-hotels must confirm that the services they provide cause business travelers to feel that their interests are first priority. In addition to the existing dimensions, we also enriched the underlying items for the specific context of economy-hotels. Business travelers have almost zero tolerance for service failures or any troubles. Therefore, the reliability dimension has similarly been perceived as crucial by business travelers with economy-hotel lodging experiences. Reliability includes the professional abilities of front desk staff, environmental cleanliness, and facility maintenance. Meal delivery is a priority to business travelers, possibly because they do not follow

typical meal times because of work. These findings are consistent with those of previous studies investigating the hotel industry. Parasuraman et al. interpreted the reliability construct as the ability to provide services in a reliable and precise manner.¹⁰ Reliability in the study of Croatian hotels indicates that hotels must solve guest problems and perform error-free service at the promised time.

Frochot and Hughes defined empathy as the willingness to consider the needs of children and less able visitors.²⁶ In the SERVQUAL model and Parasuraman et al. defined empathy as personalized focus that the firm offers to customers,¹⁰ taking it as a practical attribute of services. Sa'ñchez-Herna'ñdeza et al. explained employee empathy in a case of client-complaint resolution. However, these definitions fail to reflect the complexity of the empathy concept. We considered empathy as an independent construct in this study and regarded it as the flexibility and attentive degree of the service staff. The performance of empathy results from the related services provided (e.g., customer-oriented attitude and satisfying customer needs at any time) and from the unique features of the economy-hotel (e.g., special menus or cooking methods), as well as the economy-hotel's full authorization to employees. For interpreting these subscales, we considered empathy as an independent construct for meeting the needs of business travelers in economy-hotel industries.

Facility and rooms and dining are two more new factors in the EHSQ scale, although the LODGSERV five-dimensional scale (Parasuraman et al., 1985) does not mention a facility or rooms and dining dimension. In our study, facility and rooms and dining respectively consist of 6 and 4 items, whereas in the LODGSERV scale, those items pertain to the tangibles dimension. Evidence of physical facilities positively related to service quality in our study shows the characteristics of two separate factors as facility and rooms and dining, which should be measured as two separate factors in the EHSQ scale. Lewis showed that people traveling for recreational and business purposes differed significantly in their perceptions of hotel characteristics. Choi and Chu proposed that Asian business travelers are more concerned about the basic facilities and safety of hotels.²⁷ Dube and

Renaghan also suggested that the relevant factors influencing the hotel selection of business travelers include physical property and guest room design. Lockyer believes that the quality of bathrooms and showers is of the utmost importance to business travelers. In the present study, facility quality was perceived as particularly crucial to business travelers. The dimension primarily elucidates the functional needs of business travelers. The quality of rooms and dining also attracts considerable attention from business travelers who expect signature services from economy-hotels, such as food and beverage specialties, neat and attractive service staff uniforms, and rooms maintained in fine condition. Both room facilities and dining condition quality are essential to economy-hotel consumers when selecting accommodations.

Limitations and Future Research

Compared with previous studies, this study identified five dimensions and 24 evaluation items of service quality for economy-hotels based on LODGSERV. The EHSQ scale offers a reliable and valid method for evaluating service quality in economy-hotels. Moreover, the EHSQ scale exhibits good robustness when applied to various customer samples. Developing a scale for evaluating service quality attributes assists operators, whether stakeholders, managers, or service staff, to better assess their performance. Operators using such a scale will be better able to self-evaluate their performance from the customer perspective and to improve their weaknesses. For the stakeholders of economy-hotels, using the EHSQ scale as a self-evaluation can become one of the most crucial measures for enhancing competitiveness and increasing hotel revenue. Some limitations should be considered when interpreting the results. First, economy-hotels in this study represent a limited sector of hotel industries. Avoiding the influence of respondent social demographics, living habits, and cultural backgrounds on the results is difficult. Further research is necessary. For example, tests can be conducted on business travelers from various countries to verify the generalizability of the proposed scale. Our study findings are based on the service quality assessment of economy-hotels in

either Taiwan or ethnic Chinese areas. Given this constraint, future researchers should assess economy-hotels in other regions, which could yield somewhat different results from those analyzed here. Furthermore, the scale should be improved by applying it to various types of lodging sectors such as hostels, motels, and star-rated hotels.

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References

1. Chaudhary A, Thakur A, Chauhan T, et al. Creation of a Smoke-free Environment for Children: An Assessment of Compliance to COTPA 2003 Legislation in an Urban Area. *Indian Pediatric*, 2019; 56(10):837-840.
doi:<https://doi.org/10.1007/s13312-019-1609-0>
2. Feng D. Economy hotels: development, problems and strategies. *Tourism Tribune*, 2006; 21(7):58-62.
3. Hsu HC, Liu Z, Huang S. Managerial ties in economy hotel chains in China. Comparison of different ownership types during entrepreneurial processes. *International Journal of Contemporary Hospitality Management*, 2012; 24(3):477-495.
doi:<https://doi.org/10.1108/09596111211217923>
4. Wu HJ, Liao HC, Hung KP, Ho YH. Service guarantees in the hotel industry: Their effects on consumer risk and service quality perceptions. *International Journal of Hospitality Management*, 2012; 31(3):757-763.
doi:<https://doi.org/10.1016/j.ijhm.2011.09.012>
5. Jones JD, Adamson J, Kanitscheider C, et al. Cross-sectional survey to assess tobacco and nicotine product use since the introduction of tobacco heating products in Japan: wave 1. *Tobacco Regulatory Science*, 2021; 7(3):210-220
doi:<https://doi.org/10.18001/TRS.7.3.6>
6. Havermans A, Pieper E, Henkler-Stephani F, Talhout R. Feasibility of manufacturing tobacco with very low nicotine levels. *Tobacco Regulatory Science*, 2020; 6(6):405-150.
doi:<http://dx.doi.org/10.18001/TRS.6.6.4>
7. Wu JF. IPA on the economy hotel service quality in China-based on the survey of home inn & Jinjiang inn. *East China Economic Management*, 2007; 21(11):95-98.
doi:<https://doi.org/10.19629/j.cnki.34-1014/f.2007.11.023>
8. Lee J, Back K. Examining antecedents and consequences of brand personality in the upper-upscale business hotel segment. *Journal of Travel & Tourism Marketing*, 2010; 27(2):132-145.
doi:<https://doi.org/10.1080/10548400903579688>
9. Parasuraman A, Zeithaml VA, Berry LL. A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 1985; 49(4):41-50.
doi:<https://doi.org/10.2307/1251430>

10. Parasuraman, A, Zeithaml, VA, Berry LL. SERVQUAL: A multiple- Item Scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 1988; 64(1):12-40.
11. Llosa S, Chandon, JL, Orsingher C. An empirical study of SERVQUAL's dimensionality. *Service Industries Journal*, 1998; 18(2):16-42.
doi:http://dx.doi.org/10.1080/02642069800000017
12. Bojanic DC, Rosen LD. Measuring service quality in restaurants: An application of the SERVQUAL instrument. *Hospitality Research Journal*, 1994; 18(1):3-14.
doi:https://doi.org/10.1177%2F109634809401800102
13. Getty JM, Thompson KN. A procedure for scaling perceptions of lodging quality. *Hospitality Research Journal*, 1994; 18(2):75-96.
doi:https://doi.org/10.1177%2F109634809401800206
14. Akbaba A. Measuring service quality in the hotel industry: A study in a business hotel in Turkey. *Hospitality Management*, 2006; 25:170-192.
doi:https://doi.org/10.1016/j.ijhm.2005.08.006
15. Ale'n ME, Fraiz JA, Rufi'n R. Analysis of health spa customers' expectations and perceptions: the case of Spanish establishments. *Revista de Estudios Polite'nicos Polytechnical Studies Review*, 2006; 3:245-262.
16. Knutson B, Stevens P, Wullaert C, Patton, M, Yokoyama F. LODGSERV: A service quality index for the lodging industry. *Journal of Hospitality & Tourism Research*, 1990; 14(2):277-284.
doi:https://doi.org/10.1177%2F109634809001400230
17. Heung VCS, Wong MY. Hotel service quality in Hong Kong: A study of tourists' expectations. *Journal of Vacation Marketing*, 1997; 3(3):264-271.
doi:https://doi.org/10.1177%2F135676679700300307
18. Falces DC, Sierra DB, Grande BAL, Briñol TP. Hotelqual: una escala para medir la calidad percibida en servicios de alojamiento. *Estudios Turísticos*, 1990; 139:95-110.
19. Frochot I, Hughes H. Histoqual, the development of a historic houses assessment scale. *Tourism Management*, 2000; 21:157-167.
doi:https://doi.org/10.1016/S0261-5177(99)00045-X
20. Mei AWO, Dean AM, White CJ. Analysing service quality in the hospitality industry. *Managing Service Quality*, 1999; 9(2):136-143.
doi:http://dx.doi.org/10.1108/09604529910257920
21. Tsang N, Qu H. Service quality in China's hotel industry: A perspective from tourists and hotel managers. *International Journal of Contemporary Hospitality Management*, 2000; 12(5):316-326.
doi:https://doi.org/10.1108/09596110010339706
22. Marković S. Measuring service quality in hospitality industry – an attributive approach. Doctoral dissertation, Faculty of Tourism and Hospitality Management Opatija, University of Rijeka, Croatia; 2003.
23. Khan M. ECOSERV: Ecotourists' quality expectations. *Annals of Tourism Research*, 2003; 30(1):109-124.
doi:https://doi.org/10.1016/S0160-7383(02)00032-4
24. Goranczewski B, Puciato D. Application of SERVQUAL questionnaire in the measurement of quality of hotel services: SERVQUAL and hotel services. *Polish Journal of Sport and Tourism*, 2011; 18(2):166-171.
25. Maiga AS, Jacobs FA. Antecedents and consequences of quality performance. *Behavioral Research in Accounting*, 2005; 17:111-131.
doi:https://doi.org/10.2308/bria.2005.17.1.111
26. Bigné E, Andreu L, Gnoth J. The theme park experience: An analysis of pleasure, arousal and satisfaction. *Tourism Management*, 2005; 26(6):833-844.
doi:https://doi.org/10.1016/j.tourman.2004.05.006
27. Choi TY, Chu R. Levels of satisfaction among Asian and western travelers. *The International Journal of Quality & Reliability Management*, 2000; 17:116-128.
doi:https://doi.org/10.1108/02656710010304537
28. Lin S, Ryan B, Qu H, Martin L. A study of the relationship between hotel informative service setting items and customer satisfaction. *Journal of Quality Assurance in Hospitality & Tourism*, 2010; 11(2):111-131.
doi:https://doi.org/10.1080/15280081003800470
29. Ladhari R. Service quality, emotional satisfaction, and behavioural intentions: A study in the hotel industry. *Managing Service Quality*, 2009; 19(3):308-331.
doi:https://doi.org/10.1108/09604520910955320
30. Churchill GA. A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 1979; 16(1):64-73.
doi:https://doi.org/10.1177%2F109634809001400230
31. Gerbing DW, Anderson JC. An updated paradigm for scale development incorporating unidimensionality and its assessment. *Journal of Marketing Research*, 1988; 25(2):186-192.
doi:https://doi.org/10.2307/3150876
32. Babbie E. The Practice of Social Research (9th ed.), Wadsworth: Belmont, A; 2001.
33. Gable RK, Wolf MB. Instrument development in the affective domain: Measuring attitudes and values in corporate and school settings. Evaluation in education and human services. Boston: Kluwer Academic; 1993.
34. Hair JF, Anderson RE, Tatham RL, Black WC. Multivariate data analysis (5th ed.), Upper Saddle River, NJ: Prentice-Hall; 1998.
35. Marsh HW, Hocevar D. Application of confirmatory factor analysis to the study of self-concept: First and higher order factor models and their invariance across groups. *Psychological Bulletin*, 1985; 97:562-582.
doi:https://psycnet.apa.org/doi/10.1037/0033-2909.97.3.562
36. Bagozzi RP, Yi Y, Singh S. On the use of structural equation models in experimental designs: two extensions. *International Journal of Research in Marketing*, 1991; 8(3):125-141.
doi:https://doi.org/10.1016/0167-8116(91)90020-8
37. Bagozzi RP, Baumgartner H. The evaluation of structural equation models and hypothesis testing. In P. R. Bagozzi (Ed.), Principles of marketing research (pp. 362-422). Cambridge: Blackwell Publishers; 1994.
38. Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 1981; 18(2):39-51.
doi:https://doi.org/10.1177%2F002224378101800104
39. Zeithaml VA, Berry LL, Parasuraman A. The behavioral consequences of services quality, *Journal of Marketing*, 1996; 60(2):31-46.
doi:https://doi.org/10.2307/1251929
40. Cronin JJ, Brady MK, Hult GTM. Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing*, 2000; 76(2):193-218.
doi:https://doi.org/10.1016/S0022-4359(00)00028-2

APPENDIX

Constructs and initial scale items of economy-hotel service quality (EHSQ)

Constructs and initial scale items of economy hotel service quality (EHSQ)		
Construct	LODGSERV items	Pretesting items
Tangibles	1. Neat personnel	1. Service staff wear well-fitting and attractive uniforms
	2. Quality food/beverage	2. The restaurant offers fine and diverse gourmet dining
	3. Attractive room	3. Rooms with adequate lighting
		4. Rooms with comfortable beds and bedding
		5. Beautiful and functional furniture in guest rooms
		6. Rooms with large-sized televisions that supply various channels
	4. Decor reflects concept	7. Guest rooms with high quality sanitary equipment
		8. Providing high quality supplies, spare parts, and towels
		9. The hotel uses advanced building materials and is decorated according to its brand positioning
		10. The hotel is located downtown, with convenient transportation
Reliability	5. Attractive public areas	11. Attractive building exterior
		12. Convenient parking service
		13. Luxurious reception hall
		14. A Chinese or Western restaurant supplying exquisite and delicious food
	6. Up-to-date equipment	15. Meeting rooms
		16. Business center
		17. Gym
		18. Swimming pool
		19. Sauna
		20. Indoor shopping street
Responsiveness	7. Equipment works	21. Rooms with a large Jacuzzi
		22. Rooms with a washlet toilet
		23. Air conditioner with excellent performance
	8. Dependable/consistent	24. Facilities and equipment well maintained and properly functioning
		25. Instant solution to occasional malfunction
		26. The hotel has a strong reputation.
		27. Reasonably priced
	9. Quickly correct problems	28. Front desk staff provide efficient check-out service
		29. Rooms with peephole, door chain, or door buckle
		30. Telephone and visitor-filtering mechanism
Assurance	10. Services on-time	31. Public areas equipped with a surveillance camera system
		32. Service staff admit mistakes and make appropriate compensation efforts
		33. Timely supply of food
		34. Airport transfer or shuttle departs and arrives on time
	11. Prompt service	35. Staff conduct fluent check-in and check-out procedures, and show appropriate concern for customers
		36. Staff from various departments are willing and able to support each other
		37. Providing special rooms and parking space for the disabled
	12. Staff shift where needed	38. Restaurant offers vegetarian food
		39. Special advice of short-term itinerary for customers
		40. Service staff are courteous and exhibit good manners
41. Service staff possess adequate foreign language ability		
Commitment	13. Do special requests	42. Service staff are attractive
		43. Hotel customer features are consistent with me
		44. Seats available in public areas
		45. Sufficient public toilets
	14. Trained and experienced employees	46. Fresh air and clean environment
		47. Quiet environment
		48. Service staff are authorized to provide customers appropriate compensation or discounts
	15. You feel comfortable	49. The website is well-designed with detailed description of the hotel
		50. Hotel brochure offers introduction to hotel facilities and events, as well as information on nearby attractions
		16. Company supports employees

Construct	LODGSERV items	Pretesting items
<i>Empathy</i>	18. Reservationists are knowledgeable	51. Guests receive fine treatment from various reservation channels
	19. You feel special/valued	52. Customers receive a welcome letter, fruit, or flowers after check-in
		53. Hotel sends a card and gift to guests on their birthdays or anniversaries
		54. Hotel provides envelopes, letterheads, and visiting cards with the guest's name on them
	20. No red tape	55. Service staff are able to identify customers and call them by their surnames
		56. Service staff provide warm and friendly service attitudes, showing affinity
	21. Sensitive employees	57. The supervisor often greets guests and manages complaints in the lobby and restaurant
		58. Guests complaining to low-level staff receive instant response from the supervisor
	22. Sympathetic employees	59. Service staff put themselves in guests' place and offer appropriate services
	23. Convenient hours	60. 24-hr cab service
	24. Anticipates guest needs	61. Offers free hotel breakfast
		62. Offers catering services in rooms
		63. Offers high quality lunch, dinner, and afternoon tea in the hotel restaurant
		64. Guestrooms are equipped with a small safe.
		65. Provides whole-hotel broadband wireless network
		66. Guestrooms equipped with universal plug adapter and transformer
		67. Guestrooms equipped with body-length mirror
		68. Airport transfer and shuttle services
		69. Valet parking services
		70. Valet laundry services
		71. Free self-service laundry facilities
		72. Guestroom provided with free snacks and beverages
		73. Daily fresh fruit
		74. Daily newspaper
		75. Provides turndown service
	25. Complimentary services	76. Hotel puts customer interests as the first priority instead of adhering to procedures
	26. Has healthful menus	77. Hotel is willing to provide special menus or cooking methods for special needs