

Identifying critical elements quality for online travel agency: A comparison between Taiwan and Mainland China

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Abstract: *Intense competition among online travel agencies has made the improvement of service quality a crucial issue. To improve the service quality of online travel agencies, enhancing customer satisfaction is the top priority. This study surveyed customers in Taiwan and Mainland China on their views and ratings of the service quality of online travel agencies on both sides of the Taiwan Strait. We combined e-SERVQUAL, importance-performance analysis (IPA), and the Kano two-dimensional model to investigate the service quality of online travel agencies on both sides of the Taiwan Strait and understand the perceptions and experiences of customers. The results provide online travel agencies on both sides of the Strait with direction for service quality improvement and promote market competitiveness and sustainable operations.*

Keywords: *online travel agencies, service quality, importance-performance analysis, Kano model*

I. INTRODUCTION

The rapid development of the internet has changed how people live. With shopping websites greater in number and variety, more and more people are obtaining information that they are interested in from the internet. A survey conducted by the Taiwan Network Information Center revealed 18.83 million internet users in Taiwan and internet usage increasing from 75% in 2014 to 80.3% in 2015 (Taiwan Network Information Center, 2016). In June of 2016, the China Internet Network Information Center announced that the number of internet users in Mainland China had reached 710 million (China Internet Network Information Center, 2016). Thus, the internet has become increasingly common on both sides of the Taiwan Strait. With continuous progress in relevant software and network transmission speeds, more customers are electing to collect information or make transactions via the internet (Walle, 1996).

Tourism is a tertiary industry that is widely valued around the world. Tourist activities create output that benefits national economy and society. In 2011, the Taiwan Tourism Bureau began actively promoting the Tour Taiwan project and Project Vanguard for Excellence in Tourism with fruitful results, attracting 5.57 million foreign visitors (growth rate of 26.67%) and achieving record highs in all tourist markets. Moreover, Mainland China replaced Japan as the largest tourist market for Taiwan. Since the Chinese economic reform in 1978, developing the tourism industry swiftly became a major economic activity in Mainland China (Lui & Wang, 2010). The China Tourism Academy counted 134 million arrivals into Mainland China in 2016, which was 4.1% higher than that in the previous year. Foreigners accounted for 25.99 million of this number, which was 1.4% lower, while overnight visitors accounted for 56.89 million, which was 2.3% higher. Revenue from international tourism reached USD 113.65 billion, which presented an increase of 7.8% in contrast with that in the previous year.

With intensifying competition in e-commerce, website service quality has become a determining factor of success in e-commerce. Initially, the purpose of websites in the tourism industry was to provide travel information. Operators hoped to boost their business via the internet, and with the low costs and lack of time and location restrictions of the internet as well as 24-hour services, abundant tourist information, and resources from related businesses, they created a new way of consumption (Chang & Tseng, 2008; Reichheld, Markey, & Hopton, 2000). Kotler (2000) stated that as consumers choose travel products, the convenience of collecting information is a major factor influencing consumer behavior, including the acquisition of information regarding the travel destination and information required during travel. When travel agencies incorporate e-commerce, they must take the characteristics of the internet into consideration, but they must give even greater consideration to information provision and service quality while enhancing interactions with consumers so as to strengthen customer loyalty and marketing influence. The quality of website services exerts a direct impact on the trust and satisfaction of consumers and is also critical to the success of this industry (Santos, 2003).

To understand the true preferences and expectations of consumers and thereby improve the design and quality of services and products, conventional one-dimensional quality evaluation models cannot completely reflect the true perceptions and experiences of consumers. Kano's Model is a two-dimensional approach to

quality evaluation that can clearly distinguish the attributes of quality and divulge the potential perceptions and experiences of interviewees by categorizing the quality attributes (Yang, 2003). The importance-performance analysis (IPA) has been widely applied to analyze corporate business decisions and is also a crucial technique to gauge a company's current competitiveness, confirm a company's opportunities for operational improvements, and direct a company's strategy during the management phase (Chen & Wang, 2011). Thus, this study examined the critical service quality of online travel agencies in Taiwan and Mainland China by combining IPA and Kano's Model. By identifying the service quality attributes valued by customers, the results of this study can provide online travel agencies on both sides of the Strait with reference for service quality inspection and improvement.

II. LITERATURE REVIEW

1. Current status of online travel agencies in Taiwan

Looking back on the history of travel websites in Taiwan shows that internet tourism began with the Yushan Ticket website in 1997, which was the first website to offer online ticket purchase services and ticket price queries (Kuo & Tang, 2011). At present, there are roughly 2,800 travel agencies in Taiwan (Taiwan Tourism Bureau, 2016), and according to the Travel Quality Assurance Association (2016), there are currently 652 certified online travel agencies in Taiwan. A monthly survey conducted by PIG.com (2016) revealed that the travel agencies preferred by customers include Lion Travel, Cola Tour, ezTravel, and South East Travel Service Co.

2. Current status of online travel agencies in Mainland China

In Mainland China, statistics show a total of 27,621 travel agencies throughout the country (China National Tourism Administration, 2016). In 2015, the scope of the online tourism market reached RMB 140 billion and was projected to continue growing swiftly. The iResearch website predicted that by 2017, the scope of transactions in the online tourism market in Mainland China will have reached RMB 465 billion (China International Electronic Commerce Center, 2016). Thus, as the online environment gradually improves, more customers in Mainland China will get into the habit of consuming online, and online orders will gradually become a greater part of business.

3. Website service quality

Service quality is the measurement of the degree to which service activities provided by an organization satisfy customer needs from a customer-oriented perspective. Parasuraman, Zeithaml, and Berry (1985) indicated that service quality plays a crucial role in organizations and has a positive influence; they defined service quality as the discrepancy between what customers expect of a service provided by a service provider and what they actually perceive of the service. Parasuraman, Zeithaml, and Berry (1988) later defined service quality as the quality of service delivered during interactions between the service provider and the consumer and proposed an effective tool to measure service quality (SERVQUAL), in which constructs of quality were identified: tangibles, reliability, responsiveness, service assurance, and empathy. This tool made the measurement of service quality more specific. We therefore employed the concept presented by Parasuraman et al. (1988) in this study to investigate the preferences of service quality and the indicative aspects encompassed by service quality based on customers of online travel agencies in Taiwan and Mainland China to construct the connotations of service quality.

4. Importance-performance analysis

IPA is a way of measuring and ranking the importance and performance of certain attributes of a service or product according to customers (Sampson & Showalter, 1999). O'Sullivan (1991) created a two-dimensional grid with importance as the horizontal axis and performance as the vertical axis, and the mean importance and performance divide the grid into four quadrants, as shown in Table 1. This approach provides a double mechanism employing beforehand expectations and actual experience satisfaction; it not only assesses the degree to which users prefer various product attributes but also evaluates the performance of the providers in this attributes.

4.1 Keep up the good work: High importance and performance indicate that the organization brings greater customer satisfaction with the degree or level of these quality attributes that customers deem to be important. Thus, the quality of the quality attributes that fall in this quadrant should be maintained.

4.2 Concentrate here: High importance but low performance indicates that customers are dissatisfied with these quality attributes that they deem to be important. Thus, the quality of the quality attributes in this quadrant should take priority in improvements.

4.3 Low priority: Low importance and low performance indicates that these quality attributes, which customers deem to be unimportant, do not bring satisfaction to customers. However, these attributes are not major concerns for the customers, so they are low priority.

4.4 Possible overkill: Low importance but high performance means that the performance of the organization in these quality attributes, which customers feel to be unimportant, satisfies customers. In other words, the organization exceeds customer expectations in these quality attributes, but it is possible overkill.

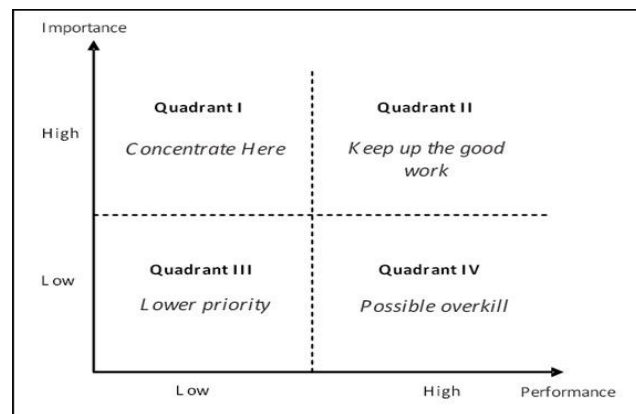


Fig. 1 IPA model grid
Source: Martilla & James (1977)

IPA categorizes service quality attributes and provides organizations with direction for improvement. Deng, Liao, and Ma (2007) investigated online banking using IPA and the Fama–French three-factor model. They identified effective improvement service quality attributes and priority improvement service quality attributes, and those that belonged to both categories were the critical service quality attributes of online banking.

5. Kano two-dimensional quality model

The Kano model was a concept proposed by Japanese quality management expert Dr. Noriaki Kano in 1984 as an expansion of one-dimensional quality, which entails a linear relationship between product quality and customer satisfaction. In contrast, two-dimensional quality is when quality attributes are adequate but customers do not feel satisfied; rather, they may even feel dissatisfied or neutral. In the same year, Dr. Noriaki Kano and his colleagues presented the Kano model and some empirical findings, in which they divided quality attributes into five categories: attractive quality, one-dimensional quality, must-be quality, indifferent quality, and reverse quality (Kano, Seraku, Takahashi, & Tsuji, 1984), as shown in Fig 2. The characteristics of these qualities are as follows.

5.1 Attractive quality: If a product or service has these quality attributes, they will feel satisfied; in contrast, if the product or service does not have these quality attributes, they will feel dissatisfied.

5.2 One-dimensional quality: The degree of satisfaction that customers derive varies with the extent to which a product of service possesses these quality attributes; a higher degree results in greater customer satisfaction, while a lower degree means less customer satisfaction.

5.3 Must-be quality: When product or service has these quality attributes, customer will take it for granted; however, if the product or service does not have these quality attributes, they will feel very dissatisfied.

5.4 Indifferent quality: Regardless of whether a product or service has these quality attributes, customers will not feel satisfied or dissatisfied.

5.5 Reverse quality: When a product or service has these quality attributes, customers will feel dissatisfied; in contrast, if the product or service does not have these quality attributes, it will increase customer satisfaction.

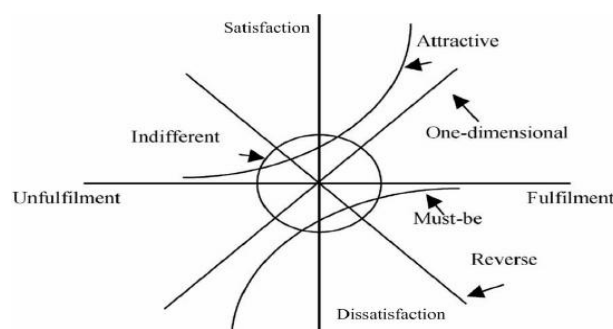


Fig. 2 Kano model
Source: Kano, Seraku, Takahashi, & Tsuji (1984)

The Kano model performs measurements via questionnaire surveys. The question items in the questionnaire generally form pairs, with one in the affirmative and the other in the negative. The responses to the two questions in each pair are then compared to categorize each quality attribute. In this study, we adopted the revised Kano model proposed by Matzler and Hinterhuber (1998), in which the number of times that each quality attribute is categorized as a two-dimensional quality attribute is tallied and ultimately categorized as the two-dimensional quality attribute with the highest tally. Yang (2003) indicated that the Kano model can clearly categorize the quality attributes that customers need and expect, thereby providing reference for quality management. This study employed the Kano model to identify the critical service quality attributes of online travel agencies to accurately reflect the service quality online travel agencies on both sides of the Strait.

III. METHODOLOGY

1. Research subjects

ezTravel was founded in January of 2000. Headquartered in Taipei, ezTravel provides online booking and payment services; it was the first travel agency to offer services via phone, the internet, and physical stores at the same time. ezTravel was named the number one online travel agency for three consecutive years (2002~2004) and received a number of awards, including the Yahoo! Happiest Consumer Brand in Tourism of 2011. Due to its top status in tourism, we chose ezTravel as our research subject of Taiwan. Ctrip was founded in Shanghai, China in 1999. It has branches in 16 cities throughout Mainland China and has a service contact center in Nantong. In 2009, Ctrip was named a designated travel agency of the world fair, and in 2010, it became an investor of ezTravel in Taiwan and Wing On Travel in Hong Kong, thereby securing a foothold in these three places. In 2011, Ctrip was named an exemplary e-commerce enterprise by the Ministry of Commerce of the People's Republic of China. We therefore chose Ctrip as our research subject of Mainland China.

2. Sampling method and sample size

With users of online travel agencies as our basic requirement, we sent questionnaires by e-mail via the customer service centers of ezTravel and Ctrip to customers who had purchased products on these online travel agencies. We distributed a total of 600 questionnaires, half to customers in Taiwan and half to those in Mainland China.

3. Questionnaire design

3.1 Questionnaire design and framework

The questionnaire was divided into three portions. The first portion collected demographic variables, and the second and third portions contained affirmative and negative question items regarding the importance and performance of the service quality attributes of online travel agencies in Taiwan and Mainland China. Our service quality questionnaire for online travel agencies in Taiwan and Mainland China was mainly based on the website service quality scale developed by Zeithaml, Parasuraman, and Malhotra (2002). We also referred to the studies conducted by Wolfinbarger and Gilly (2003), Janda, Trocchia, and Gwinner (2002), Szymanski and Hise (2000), and Van Riel, Semeijn, and Janssen (2003). According to the criteria suggested by Kaiser (1974), we chose eigenvalues greater than 1, employed varimax rotation, and extracted five question items with factor loadings greater than 0.4 to eliminate question items that were too similar or were not practical. Ultimately, we investigated service quality using the remaining 31 factors, the cumulative percentage of variance explained being 67.237%. We then renumbered the question items and renamed the constructs to service efficiency, need fulfillment, security and privacy, communication, and system responsiveness, as shown in Table 1. The questionnaire survey was then conducted after the pilot test.

3.2 Data analysis method

We analyzed the data using SPSS. The analyses performed included descriptive statistics analysis, reliability, and exploratory factor analysis. We then employed IPA and the Kano model to categorize the quality attributes. In the IPA, service quality attributes that fall within the high importance and low performance zone are the priority improvement service quality attributes. In the Kano model, those that greatly increase customer satisfaction and greatly decrease customer dissatisfaction are deemed to be the effective improvement service quality attributes. The service quality attributes that are both priority improvement service quality attributes and effective improvement service quality attributes are the critical service quality attributes.

Table 1 Exploratory factor analysis

| Construct | Question item | Factor | | | | |
|--------------------|--|--------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| Service efficiency | Q1. The online ordering process is quick and simple. | .732 | | | | |
| | Q2. The website functions are easy to use | .689 | | | | |

| | | | | | | |
|---|---|---------|---------|---------|---------|------|
| | and browse. | | | | | |
| | Q3. I can easily find the tourism product I am looking for on the website. | .675 | | | | |
| | Q4. The items on the website are clearly categorized. | .656 | | | | |
| | Q5. The web pages download quickly and smoothly without delay. | .655 | | | | |
| | Q6. The website updates its tourism products in a timely manner. | .644 | | | | |
| | Q7. The website displays text, images, and videos properly. | .627 | | | | |
| | Q8. The website provides service all year round. | .589 | | | | |
| | Q9. Transactions on the website do not fail halfway through. | .585 | | | | |
| | Q10. The process of becoming a member is very convenient. | .543 | | | | |
| Need fulfillment | Q11. The tourism products on the website are very rich in content. | | .747 | | | |
| | Q12. Group discounts are available for website products. | | .743 | | | |
| | Q13. Competitive bidding is allowed for website products. | | .709 | | | |
| | Q14. The tourism products on the website have better prices. | | .676 | | | |
| | Q15. The layout of website content is consistent. | | .643 | | | |
| | Q16. The website presents the transaction rules clearly. | | .626 | | | |
| | Q17. The headings, content and colors of the website are coordinated. | | .571 | | | |
| | Q18. The website provides professional travel knowledge and information. | | .560 | | | |
| | Q19. The website sends a confirmation email to confirm transactions. | | .555 | | | |
| Security and privacy | Q20. The website states that it protects customer security and privacy. | | | .817 | | |
| | Q21. Website transactions are secure. | | | .747 | | |
| | Q22. The website has basic security measures. | | | .734 | | |
| | Q23. The website has clear transaction security policies. | | | .719 | | |
| Communication | Q24. The website has a message board service. | | | | .833 | |
| | Q25. The website provides an email address. | | | | .822 | |
| | Q26. The website provides a customer service hotline. | | | | .716 | |
| | Q27. It is easy to contact website personnel. | | | | .514 | |
| System responsiveness | Q28. The website's contact method is simple. | | | | | .515 |
| | Q29. When I encounter problems, the website personnel help me with sincerity. | | | | | .511 |
| | Q30. The website responds to search requests quickly. | | | | | .495 |
| | Q31. The website personnel respond to customer queries quickly. | | | | | .481 |
| Eigenvalues | 10.285 | 1.829 | 1.339 | 1.140 | 1.065 | |
| Percentage of variance explained | 18.847% | 16.421% | 14.226% | 10.606% | 7.137% | |
| Cumulative percentage of variance explained | 18.847% | 35.268% | 49.494% | 60.1% | 67.237% | |
| Reliability analysis | 0.888 | 0.829 | 0.863 | 0.789 | 0.769 | |
| Appropriateness | 0.945 | | | | | |

IV. RESULTS

1. Demographic statistics of Taiwan and Mainland China

We recovered a total of 253 questionnaires from Taiwan and 157 questionnaires from Mainland China. Table 2 presents the results of the demographic variable analysis.

Table Demographic statistics of respondents in Taiwan and Mainland China

| Category | Question item | Taiwan | Percentage | Mainland China | Percentage |
|------------------------|---------------------------------|--------|------------|----------------|------------|
| Gender | Male | 108 | 42.69% | 78 | 49.68% |
| | Female | 145 | 57.31% | 79 | 50.32% |
| Age | Under 20 | 61 | 24.11% | 27 | 16.69% |
| | 21~30 | 79 | 31.23% | 87 | 55.41% |
| | 31~40 | 78 | 30.83% | 43 | 27.39% |
| Educational background | Senior (vocational) high school | 70 | 27.67% | 23 | 14.65% |
| | College | 99 | 39.13% | 100 | 63.69% |
| | Graduate school | 84 | 33.2% | 34 | 21.66% |
| Occupation | Student | 84 | 33.20% | 26 | 16.56% |
| | Public sector | 40 | 15.81% | 26 | 16.56% |
| | Industry and commerce | 96 | 37.94% | 75 | 47.77% |
| | Self-employed | 33 | 13.05% | 30 | 19.11% |

2. Importance-performance analysis of Taiwan

Customers in Taiwan ranked Q21 "Website transactions are secure", Q22 "The website has basic security measures", and Q20 "The website states that it protects customer security and privacy" as the top three crucial quality attributes of online travel agency services and Q10 "The process of becoming a member is very convenient", Q24 "The website has a message board service", and Q12 "Group discounts are available for website products" as the three least important quality attributes. They were most satisfied with Q26 "The website provides a customer service hotline", Q8 "The website provides service all year round", and Q25 "The website provides an email address" and perceived that online travel agencies in Taiwan displayed the poorest performance in Q10 "The process of becoming a member is very convenient", Q29 "When I encounter problems, the website personnel help me with sincerity", and Q31 "The website personnel respond to customer queries quickly".

3. Importance-performance analysis of Mainland China

Customers in Mainland China ranked Q21 "Website transactions are secure", Q22 "The website has basic security measures", and Q20 "The website states that it protects customer security and privacy" as the most crucial quality attributes of online travel agency services and Q17 "The headings, content and colors of the website are coordinated", Q15 "The layout of website content is consistent", and Q12 "Group discounts are available for website products" as the three least important quality attributes. They were most satisfied with Q10 "The process of becoming a member is very convenient", Q2 "The website functions are easy to use and browse", and Q21 "Website transactions are secure" perceived the poorest performance in Q30 "The website responds to search requests quickly", Q29 "When I encounter problems, the website personnel help me with sincerity", and Q31 "The website personnel respond to customer queries quickly".

4. Importance-performance analysis of Taiwan and Mainland China

We examined the importance and performance of online travel agency services as perceived by customers using IPA and compiled the IPA matrixes based on customers in Taiwan and Mainland China. The results are as shown in Table 3.

5. Kano model analysis of Taiwan and Mainland China

The Kano model analysis results indicate that customers in Taiwan categorize 9 quality attributes of online travel agency services as one-dimensional qualities and 22 quality attributes as must-be qualities, as shown in Table 4. We then calculated the customer satisfaction coefficient (CS) and customer dissatisfaction coefficient (CD) of all of the quality attributes and used the mean CS on the X axis 0.433 and the mean CD on the Y axis -0.776 to plot a customer satisfaction coefficient matrix. Quality attributes that fall within the first quadrant are effective improvement quality attributes, which means that improving these quality attributes can both increase customer satisfaction greatly and reduce customer dissatisfaction significantly. We identified seven effective improvement service quality attributes: Q11 "The tourism products on the website are very rich in content", Q12 "Group discounts are available for website products", Q13 "Competitive bidding is allowed for website products", Q14 "The tourism products on the website have better prices", Q15 "The layout of website content is consistent", Q18 "The website provides professional travel knowledge and information", and Q19 "The website sends a confirmation email to confirm transactions".

Table 3 Importance-performance analysis of Taiwan and Mainland China

| Construct | Question item | Taiwan | | | | Mainland China | | | |
|-----------------------|---|--------|----|-----|-------|----------------|----|-----|----|
| | | I | II | III | IV | I | II | III | IV |
| Service efficiency | Q1. The online ordering process is quick and simple. | • | | | | • | | | |
| | Q2. The website functions are easy to use and browse. | • | | | | • | | | |
| | Q3. I can easily find the tourism product I am looking for on the website. | • | | | | | • | | |
| | Q4. The items on the website are clearly categorized. | | | | • | • | | | |
| | Q5. The web pages download quickly and smoothly without delay. | | • | | | • | | | |
| | Q6. The website updates its tourism products in a timely manner. | | | | • | • | | | |
| | Q7. The website displays text, images, and videos properly. | | | | • | | | | • |
| | Q8. The website provides service all year round. | • | | | | | | • | |
| | Q9. Transactions on the website do not fail halfway through. | • | | | | • | | | |
| | Q10. The process of becoming a member is very convenient. | | | • | | | | | • |
| Need fulfillment | Q11. The tourism products on the website are very rich in content. | | • | | | | | | • |
| | Q12. Group discounts are available for website products. | | | • | | | | • | |
| | Q13. Competitive bidding is allowed for website products. | | | • | | | | • | |
| | Q14. The tourism products on the website have better prices. | | • | | | | • | | |
| | Q15. The layout of website content is consistent. | | | • | | | | • | |
| | Q16. The website presents the transaction rules clearly. | • | | | | | • | | |
| | Q17. The headings, content and colors of the website are coordinated. | | | • | | | | • | |
| | Q18. The website provides professional travel knowledge and information. | | • | | | | | • | |
| Security and privacy | Q19. The website sends a confirmation email to confirm transactions. | • | | | | | | • | |
| | Q20. The website states that it protects customer security and privacy. | • | | | | • | | | |
| | Q21. Website transactions are secure. | • | | | | • | | | |
| | Q22. The website has basic security measures. | • | | | | • | | | |
| Communication | Q23. The website has clear transaction security policies. | • | | | | • | | | |
| | Q24. The website has a message board service. | | | | • | | | • | |
| | Q25. The website provides an email address. | | | | • | | | | • |
| | Q26. The website provides a customer service hotline. | | | | • | | | | • |
| System responsiveness | Q27. It is easy to contact website personnel. | | | | • | | | • | |
| | Q28. The website's contact method is simple. | | • | | | | | | • |
| | Q29. When I encounter problems, the website personnel help me with sincerity. | | • | | | | • | | |
| | Q30. The website responds to search requests quickly. | | • | | | | • | | |
| | Q31. The website personnel respond to customer queries quickly. | | • | | | | • | | |
| Mean (X axis) | 3.757 | | | | 3.628 | | | | |
| Mean (Y axis) | 4.405 | | | | 4.225 | | | | |

Table 4 Kano model analysis of Taiwan and Mainland China

| Construct | Question item | Taiwan | | | Mainland China | | |
|--------------------|--|-------------------------|-----------------|---------------------|-------------------------|-----------------|---------------------|
| | | One-dimensional quality | Must-be quality | Indifferent quality | One-dimensional quality | Must-be quality | Indifferent quality |
| Service efficiency | Q1. The online ordering process is quick and simple. | | • | | • | | |
| | Q2. The website functions are easy to use and browse. | | • | | | • | |
| | Q3. I can easily find the tourism product I am looking for on the website. | • | | | • | | |
| | Q4. The items on the website are clearly categorized. | | • | | | • | |
| | Q5. The web pages download quickly and smoothly without | | • | | • | | |

| | | | | | | | |
|-----------------------|---|---|---|--|---|---|---|
| | delay. | | | | | | |
| | Q6. The website updates its tourism products in a timely manner. | • | | | • | | |
| | Q7. The website displays text, images, and videos properly. | | • | | | • | |
| | Q8. The website provides service all year round. | | • | | | | • |
| | Q9. Transactions on the website do not fail halfway through. | | • | | | • | |
| | Q10. The process of becoming a member is very convenient. | | • | | • | | |
| Need fulfillment | Q11. The tourism products on the website are very rich in content. | • | | | | | • |
| | Q12. Group discounts are available for website products. | • | | | | | • |
| | Q13. Competitive bidding is allowed for website products. | • | | | | | • |
| | Q14. The tourism products on the website have better prices. | • | | | | | • |
| | Q15. The layout of website content is consistent. | | • | | | | • |
| | Q16. The website presents the transaction rules clearly. | | • | | | • | |
| | Q17. The headings, content and colors of the website are coordinated. | | • | | | | • |
| | Q18. The website provides professional travel knowledge and information. | • | | | | • | |
| | Q19. The website sends a confirmation email to confirm transactions. | | • | | | • | |
| Security and privacy | Q20. The website states that it protects customer security and privacy. | | • | | | • | |
| | Q21. Website transactions are secure. | | • | | • | | |
| | Q22. The website has basic security measures. | | • | | | • | |
| | Q23. The website has clear transaction security policies. | | • | | | • | |
| Communication | Q24. The website has a message board service. | | • | | | | • |
| | Q25. The website provides an email address. | | • | | | | • |
| | Q26. The website provides a customer service hotline. | | • | | | • | |
| | Q27. It is easy to contact website personnel. | | • | | | • | |
| System responsiveness | Q28. The website's contact method is simple. | | • | | | • | |
| | Q29. When I encounter problems, the website personnel help me with sincerity. | • | | | • | | |
| | Q30. The website responds to search requests quickly. | | • | | | | • |
| | Q31. The website personnel respond to customer queries quickly. | • | | | • | | |

V. CONCLUSION AND SUGGESTIONS

1. Importance-performance analysis of Taiwan and Mainland China

On the whole, customers of online travel agencies feel that service quality is important and unanimously have high expectations of service quality regardless of gender, age, educational background, or occupation. The statistical analysis results show no significant gender differences in attitude toward the importance of the service quality of online travel agencies in Taiwan. The perceived importance of the need fulfillment and system responsiveness aspects varied significantly with the age of the customer. Furthermore, attitude toward the importance of the service quality of online travel agencies did not vary significantly with

educational background or occupation. The analysis of the Mainland China statistics presented no significant gender differences in attitude toward the importance of the service quality of online travel agencies, though females did value service quality slightly more than males. In terms of age, the perceived importance of the service quality of online travel agencies did not vary significantly with age. However, attitude toward the importance of the service quality of online travel agencies varied significantly with educational background and occupation. Online travel agencies in Mainland China will need to make adjustments based on these differences and needs to as to fulfill the needs of their customers and improve their service quality.

The IPA identified 8 priority improvement service quality attributes based on customers in Taiwan: Q5 "The web pages download quickly and smoothly without delay", Q11 "The tourism products on the website are very rich in content", Q14 "The tourism products on the website have better prices", Q18 "The website provides professional travel knowledge and information", Q28 "The website's contact method is simple", Q29 "When I encounter problems, the website personnel help me with sincerity", Q30 "The website responds to search requests quickly", and Q31 "The website personnel respond to customer queries quickly". Based on customers in Mainland China, the IPA identified 6 priority improvement service quality attributes: Q3 "I can easily find the tourism product I am looking for on the website", Q14 "The tourism products on the website have better prices", Q16 "The website presents the transaction rules clearly", Q29 "When I encounter problems, the website personnel help me with sincerity", Q30 "The website responds to search requests quickly", and Q31 "The website personnel respond to customer queries quickly".

2. Kano model analysis of Taiwan and Mainland China

The statistical analysis results revealed no significant gender differences among customers in Taiwan with regard to the service quality performance of online travel agencies. The perceived performance of the need fulfillment and system responsiveness aspects of service quality varied significantly with the age of the customer. The perceived performance of the need fulfillment, security and privacy, communication, and system responsiveness aspects of service quality varied significantly with the educational background of the customer. Furthermore, the overall experience and the perceived performance of the need fulfillment, security and privacy, communication, and system responsiveness aspects of service quality varied significantly with the occupation of the customer.

The statistical analysis results for consumers in Mainland China revealed no significant gender differences with regard to the service quality performance of online travel agencies. However, the overall experience and the perceived performance of the service efficiency, need fulfillment, security and privacy, and system responsiveness aspects of service quality varied significantly with the age of the customer. The perceived performance of the security and privacy and system responsiveness aspects of service quality varied significantly with the educational background of the customer. Furthermore, the overall experience and the perceived performance of the service efficiency, communication, and system responsiveness aspects of service quality varied significantly with the occupation of the customer.

Based on the analysis results for customers in Taiwan, 9 of the service quality attributes were one-dimensional qualities, and 22 were must-be qualities. Using the customer satisfaction coefficient matrix, we identified 7 effective improvement service quality attributes that can both increase customer satisfaction greatly and reduce customer dissatisfaction significantly: Q11 "The tourism products on the website are very rich in content", Q12 "Group discounts are available for website products", Q13 "Competitive bidding is allowed for website products", Q14 "The tourism products on the website have better prices", Q15 "The layout of website content is consistent", Q18 "The website provides professional travel knowledge and information", and Q19 "The website sends a confirmation email to confirm transactions".

Based on the proposed approach, the service quality attributes that are included among the 7 priority improvement service quality attributes and the 8 effective improvement service quality attributes at the same time for customers in Taiwan are Q11 "The tourism products on the website are very rich in content", Q14 "The tourism products on the website have better prices", and Q18 "The website provides professional travel knowledge and information". Thus, these are the critical service quality attributes of the service quality of online travel agencies in Taiwan. In contrast, based on the analysis results for customers in Mainland China, 10 of the service quality attributes were indifferent qualities, 8 were one-dimensional qualities, and 13 were must-be qualities. Using the customer satisfaction coefficient matrix, we identified 5 effective improvement service quality attributes that can both increase customer satisfaction greatly and reduce customer dissatisfaction significantly: Q8 "The website provides service all year round", Q14 "The tourism products on the website have better prices", Q17 "The headings, content and colors of the website are coordinated", Q30 "The website responds to search requests quickly", and Q31 "The website personnel respond to customer queries quickly". Based on the proposed approach, the service quality attributes that are included among the 6 priority improvement service quality attributes and the 5 effective improvement service quality attributes at the same time for customers in Mainland China are Q14 "The tourism products on the website have better prices", Q30

"The website responds to search requests quickly", and Q31 "The website personnel respond to customer queries quickly". Thus, these are the critical service quality attributes of the service quality of online travel agencies in Mainland China. Based on the analysis results above, we believe that Q14 "The tourism products on the website have better prices" is the most crucial service quality attribute the service quality of online travel agencies in Taiwan and Mainland China. With the tourism industry flourishing in recent years, the number of online travel agencies has increased substantially, and this increase in quantity means that quality must be enhanced to maintain competitiveness. Customers in Taiwan and Mainland are largely concerned with whether online travel agencies offer tourism products at good deals, which means that this matter is of great importance on both sides of the Strait. We therefore suggest that online travel agencies in Taiwan and Mainland China adopt the last-minute marketing method that is common in American and European countries to attract customers. In a study on the influence of promotional activities on the purchase behavior of consumers, Wang (1993) also found that greater discounts result in greater purchase intention. Aside from regular discounts, last-minute promotions can be another incentive for consumers to purchase tourism products online and provide different consumer groups with more choices. Due to geological and financial limitations, this study only examined two of the most widely known online travel agencies in Taiwan and Mainland China. The results of this study provide reference for future studies on other online travel agencies.

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