STRUCTURAL REALTIONSHPES OF PASSENGER SATISFACTION WITH AIRLINE SERVICE QUALITY

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ABSTRACT

This study aimed to examine the effects of aspects of airline service quality, such as airline/terminal tangibles and empathy on levels of customer satisfaction with service quality. The relationship between these levels of satisfaction and the general perceptions about service quality was also investigated. A total of 250 respondents who had regularly patronized either Malaysia Airlines or AirAsia over the last six months were selected via convenience sampling method. Structural Equation Modeling (SEM) approach was used for data analysis. Empirical results via SEM revealed that the relationship between customer satisfaction with the service quality of the airline providers and ‘word-of-mouth’ recommendations is a consistent one. Furthermore, customer satisfaction with the service quality of the airline providers is widely influenced by empathy, which is why flight punctuality and good transportation links between city venues and airports are prioritized by providers.

Keywords: Airline Tangibles, Terminal Tangibles, Empathy, Satisfaction, Word of Mouth, Structural Equation Modeling

INTRODUCTION

Peninsula Malaysia provides domestic and international flight services via two principal operators: Malaysia Airlines and AirAsia (located at Terminals 1 and 2, Kuala Lumpur International Airport respectively). Malaysia Airlines has the capacity to fly nearly 50,000 passengers to 100 destinations worldwide daily and has been frequently awarded World’s Best Cabin Crew (2001-2004 and 2009), and ‘5 STAR Airline’ (2005-2009) by Skytrax UK (Nexus, 2013). In contrast, AirAsia operates as a low-cost budget airline with the corporate philosophy ‘Now Everyone Can Fly’. The airline operates 400 flights to 61 destinations daily courtesy of a fleet of 75 aircraft. It has been awarded the “Best Low Cost Airline” by the Skytrax UK. In 2009, 23.6 million tourists flew to Malaysia from Singapore, Indonesia, Thailand, China and Brunei and spent RM53.4 billion. By the following year, the figures had increased to 24.6 million tourists and RM56.5 billion in revenue (NST, 2011). Besides Malaysia Airlines and AirAsia, the principal operators at the time were Singapore Airlines, Garuda, Thai Airways and Royal Brunei. Domestic tourism also contributed RM25.98 billion, an increase of 23% from the RM21.1 billion amassed in 2008. Domestic tourism has grown by an average 20% annually since? (NST, 2011). Indeed, tourist arrivals rose from 24,714,324 in 2011 to 25,032,708
in 2012, with earnings of RM60.6 billion compared to RM58.3 billion the previous year (Tourism Malaysia, 2013).

While several research studies have been conducted on the perspectives of airline passengers in Western countries (e.g. Gursoy, Chen, & Kim, 2005; Rhoades & Waguespack, 2008), little has been published on the perspectives of airline passengers in Asian countries, Malaysia included. Hence, this study aims to examine the effects of aspects of airline service quality such as airline/terminal tangibles and empathy on levels of customer satisfaction with the provider. The influence of customer satisfaction with the service quality of the airline providers on customer word-of-mouth recommendations is also investigated. Results offer a clearer perspective for airline providers, enabling them to identify airline passengers’ behaviour for better market segmentation, targeting and positioning in the airline industry that could promote market demands. This study contributes to existing knowledge in two ways:
1. by investigating which factors influence customer satisfaction with the service quality of the airline providers; and
2. by investigating whether customer satisfaction with the service quality of the airline providers influences customers’ word-of-mouth recommendations.

The next section presents a review of relevant literature. The paper then proceeds to discuss the methodology used in the study for carrying out the survey, before analysing the resultant data. The final section contains the conclusion, considers the implications of the study and outlines suggestions for future research.

LITERATURE REVIEW

Service quality in the airline industry is related to the ability of the airline providers to transport passengers to their required destinations while providing excellent standards of service (Rhoades & Waguespack, 2008) during the various interactions between passengers and airline employees, as well as anything that is likely to influence passengers’ perceptions, such as the airline’s image (Gursoy et al., 2005). Excellent service quality can increase levels of customer satisfaction, leading to consumer retention (Hu, Kandampully, & Juwaheer, 2009) and encouraging recommendations (Nadiri, & Hussain, 2005). Increasing the level of customer satisfaction leads to improved profits, more word-of-mouth recommendations and less marketing expenditure (Beerli, Martin & Quintana, 2004). Waiting and delays in delivering the service have a significant effect on service quality (Danaher & Mattsson, 1998). Tangibles and empathy are dimensions on the SERVQUAL scale created by Parasuraman, Zeithaml, and Berry (1988). Both factors influence customers’ evaluation of the company’s service delivery (Zeithaml, Parasuraman & Berry, 1990).

Tangibles

Tangibles are related to physical assets of a service company, such as equipment, machinery, signage, and communication materials (Bahia & Nantel, 2000; Bitner, 1992; Parasuraman et al., 1988). Tangible elements of the tourism product can be evaluated, measured and subjected to specific standards that fulfill multiple tourism needs and provide corresponding benefits to the customers (Xu, 2009). The tourism sector attracts
tourists by focusing on a particular business or leisure factor (Xu, 2009), such as accommodation (e.g. hotels and chalets), attractions (e.g. museums, art galleries, beaches), amenities (e.g. restaurants, public facilities), and ancillaries (e.g. travel agents, guides and organisers). Thus, consumers perform wide-ranging reviews encompassing in-store information, product advertising, product information signs, packaging, and point of purchase displays (Laroche, Saad, Cleveland, & Browne, 2000). Based on the preceding literature, the following can be hypothesized:
H1: Airline tangible-related quality significantly influences customer satisfaction.
H2: Terminal tangible-related quality significantly influences customer satisfaction.

Empathy

Empathy is evoked if a firm can provide their customer with personal service interactions during service delivery. This influences the cognitions, attitudes and evaluations of the customers towards products and services (Schneider & Bowen, 1995) in building favourable service quality perceptions and customer satisfaction which includes a broad range of mixed emotions or ambivalence (Richins, 1997). Employees have an important effect on customer service (Jabnoun & Al-Tamimi, 2003; Yavas, Bilgin & Shemwell, 1997) because customers today are better educated than ever before (Mouawad & Kleiner, 1996) and require a high degree of personalisation.

Consumers might experience a high level of satisfaction that consists of both positive feelings (e.g., pleasure, happiness) and negative ones (e.g., sadness, regret). Therefore, a service is of value to an individual consumer if it makes his/her life pleasurable, more tranquil, safe and/or harmonious (Thuy & Hau, 2010). This can only be determined after the consumers assess the trade-off between the benefits that they have received and the amount they paid for the service (Ladhari & Morales, 2007). Kumar, Mani, Mahalingam and Vanjikovan (2010) found that empathy has a significant relationship with customer satisfaction. Accordingly, the study hypothesises that:
H3: Empathy significantly influences customer satisfaction.

Customer Satisfaction and Word of Mouth

Word of mouth (WOM) is related to the informal communication of consumers who have used a product or a service and later communicate their experience - either positive or negative - about the characteristics of a business or a product to another consumer who plans to buy it (Anderson, 1998; Dichter, 1966; Kau & Loh, 2006; Ryu & Han, 2009; Westbrook, 1987). It includes recommendations and is allied to the consumer evaluations of products or services. Prior researchers found that WOM affects customer’s attitudes, future behavior (Harrison-Walker, 2001; Lambrecht, Kaefer, & Ramenofsky, 2009) and customer satisfaction (Anderson, 1998), which influences new customer acquisition (Harrison-Walker, 2001; McKenna, 1991; Mangold, Miller, & Brockway, 1999; Mittal & Lassar, 1998; Murray, 1991; Tax & Chandashekar, 1992), as well as increasing company’s revenue and market foothold. Nadiri, Hussain, Haktan Ekiz, and Erdogan (2008) stating that satisfied customers are more likely to communicate word of mouth than those who are dissatisfied with the service. Accordingly, this study hypothesises that:
H4: Customer satisfaction significantly influences word-of-mouth.

Figure 1 illustrates the proposed theoretical framework.

**FIGURE 1**: Theoretical Model

**METHODOLOGY**

An airline passenger survey was conducted among the population of the Federal Territory of Labuan, Malaysia using a convenience sampling method. Respondents were pre-screened and restricted to Labuan residents who had flown regularly with Malaysia Airlines and AirAsia in the preceding six months. A total of 350 questionnaires were sent out in October 2012 over a period of two weeks. Of these, 250 were deemed useful and used in the data analysis with a valid response rate of 83%. An airline passenger survey, with closed-ended questions was designed on the basis of the objectives of this paper. The first part of the three-section questionnaire contained general demographic questions, relating to such matters as gender, age and level of education, while the second part comprised questions about the respondents’ experiences as airline passengers.

The final part of the questionnaire contained questions on airline passengers’ service quality dimensions using an AIRQUAL scale which comprised 6-items for airline tangibles, 11-items for terminal tangibles, and 7-items for empathy. The remaining dimensions included 3-items for customer satisfaction, 2-items for loyalty and 3-items for word-of-mouth communication. This instruments were adopted from Ekiz, Hussain, and Bavik (2006) and Karatepe and Ekiz (2004) and were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Structural Equation Modeling (SEM) approach via Analysis of Moment Structure (AMOS) computer program version 20 was then employed as it has the ability to ensure model consistency with the data and to estimate influences among constructs instantaneously.

**DATA ANALYSIS**

Table 1 displays the descriptive analysis of the demographic profile of the respondents, of whom 52% were men. A large number of respondents came from the
18-34 age group (84%). Most participants indicated that they received a monthly income of below RM3,000 (85%) and held STPM/Diploma certification.

**TABLE 1: Demographic Profile of Respondents**

<table>
<thead>
<tr>
<th>Experiences</th>
<th>Categories</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>156</td>
<td>52.0</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>144</td>
<td>48.0</td>
</tr>
<tr>
<td>Age</td>
<td>18-24</td>
<td>174</td>
<td>58.0</td>
</tr>
<tr>
<td></td>
<td>25-34</td>
<td>77</td>
<td>25.7</td>
</tr>
<tr>
<td></td>
<td>35-44</td>
<td>44</td>
<td>14.7</td>
</tr>
<tr>
<td></td>
<td>45 and above</td>
<td>5</td>
<td>1.7</td>
</tr>
<tr>
<td>Education Level</td>
<td>SPM</td>
<td>21</td>
<td>7.0</td>
</tr>
<tr>
<td></td>
<td>STPM/Diploma</td>
<td>137</td>
<td>45.7</td>
</tr>
<tr>
<td></td>
<td>Degree</td>
<td>133</td>
<td>44.3</td>
</tr>
<tr>
<td></td>
<td>Master</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>PhD</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>&lt; RM2500</td>
<td>197</td>
<td>65.7</td>
</tr>
<tr>
<td></td>
<td>RM2501-RM3000</td>
<td>58</td>
<td>19.3</td>
</tr>
<tr>
<td></td>
<td>RM3001-RM3500</td>
<td>35</td>
<td>11.7</td>
</tr>
<tr>
<td></td>
<td>&gt; RM3501</td>
<td>10</td>
<td>3.3</td>
</tr>
</tbody>
</table>

**Experiences of Airline Passengers**

Table 2 presents the descriptive analysis of the experiences of airline passengers. More than half of the respondents chose AirAsia as their airline provider of choice in preference to Malaysia Airlines (54:46). About 16% of the respondents used airlines as a medium of transportation at least five times a year, while more than half flew 3-4 times a year. More than three-quarter of the respondents stated that the price of flight ticket, service of the airline, time of the flight were the major reasons for choosing the airline, of which the first was the principal reason.

**TABLE 2: Experiences of Airlines**

<table>
<thead>
<tr>
<th>Experiences</th>
<th>Categories</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same airline always chosen</td>
<td>Malaysia Airlines</td>
<td>138</td>
<td>46.0</td>
</tr>
<tr>
<td></td>
<td>AirAsia Airline</td>
<td>162</td>
<td>54.0</td>
</tr>
<tr>
<td>Frequency of using airline in a year</td>
<td>1-2 times</td>
<td>90</td>
<td>30.0</td>
</tr>
<tr>
<td></td>
<td>3-4 times</td>
<td>163</td>
<td>54.3</td>
</tr>
<tr>
<td></td>
<td>5-6 times</td>
<td>34</td>
<td>11.3</td>
</tr>
<tr>
<td></td>
<td>7 times and above</td>
<td>13</td>
<td>4.3</td>
</tr>
<tr>
<td>Major reason for choosing the airline</td>
<td>Price of flight ticket</td>
<td>180</td>
<td>60.0</td>
</tr>
<tr>
<td></td>
<td>Airline services</td>
<td>24</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>Time of flight</td>
<td>58</td>
<td>19.3</td>
</tr>
<tr>
<td></td>
<td>Destination</td>
<td>38</td>
<td>12.7</td>
</tr>
</tbody>
</table>
Structural Equation Modeling

A two-step SEM approach, measurement model and structural model, were employed to confirm the reliability and validity of the measures before examining the structural relationship between constructs.

The measurement model was assessed via the evaluations of the reliability, convergent validity, and discriminant validity of the construct measures. The reading of Cronbach’s alpha and composite reliability for all the variables, as presented in Table 3, is greater than 0.50, symbolizing higher reliability among the indicators (Hair, Black, Babin, Anderson, & Tatham, 2010). The average variances extracted (AVE) of latent constructs, range from 0.594 to 0.733, and exceed the recommended threshold value of 0.50 (Hair et al., 2010), which signifies that more than one-half of the variances observed in the items were accounted for by their hypothesized constructs. Hence, the current data have good convergent validity.

**TABLE 3: Inter-construct Correlations**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Cronbach’s Alpha</th>
<th>Composite Reliability</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Terminal Tangible</td>
<td><strong>0.77</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.747</td>
<td>0.790</td>
<td>0.611</td>
</tr>
<tr>
<td>(2) Empathy</td>
<td>0.431**</td>
<td><strong>0.78</strong></td>
<td></td>
<td></td>
<td></td>
<td>0.715</td>
<td>0.798</td>
<td>0.594</td>
</tr>
<tr>
<td>(3) Word of Mouth</td>
<td>0.287**</td>
<td>0.416**</td>
<td><strong>0.856</strong></td>
<td></td>
<td></td>
<td>0.708</td>
<td>0.782</td>
<td>0.619</td>
</tr>
<tr>
<td>(4) Airline Tangible</td>
<td>0.472**</td>
<td>0.408**</td>
<td>0.276*</td>
<td><strong>0.78</strong></td>
<td></td>
<td>0.772</td>
<td>0.840</td>
<td>0.733</td>
</tr>
<tr>
<td>(5) Customer Satisfaction</td>
<td>0.340**</td>
<td>0.462**</td>
<td>0.441*</td>
<td>0.392**</td>
<td><strong>0.793</strong></td>
<td>0.744</td>
<td>0.769</td>
<td>0.629</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed). Diagonal elements in bold show the shared variance.

Discriminant validity was checked by comparing the shared variances between factors with the square root of AVE for each construct. Table 3 shows that all shared variances of one construct with others were lower than the square root of AVE of the individual factors, confirming adequate discriminant validity. Hence, each construct was statistically different from the others. Pearson correlation coefficients were computed in order to examine the correlation between variables. The multi-items for each construct were firstly computed in order to generate a composite score since a single construct in the questionnaire composed of multiple items. Indeed, all the factors (i.e. terminal tangibles, empathy, word of mouth, and airline tangibles) are positively correlated with the satisfaction of the passengers at $p<0.01$. The correlation coefficients were less than 1, i.e. between 0.340 and 0.462. Hence, multicollinearity is absent in this research.
The structural model in the SEM was evaluated by examining fit indices and variance-explained estimates. The results indicated that the $\chi^2$ of the model was 274.188 with 143 of freedom ($\chi^2/df = 1.917$). The indices value for comparative fit index (CFI) = 0.910, goodness of fit index (GFI) = 0.912, and normed fit index (NFI) = 0.931 were above 0.90 and root mean square error of approximation (RMSEA) = 0.055 was below 0.08 (Bentler, 1990; Byrne, 2001), indicating a satisfactory fit. Therefore, the hypothesized model was a good fit and acceptable. Figure 2 disclose the standardized path coefficients of the structural model under investigation which indicate the strength of the direct relationship between constructs. All independent variables accounted for 65% of the total variance in satisfaction of airline passengers ($R^2=0.65$), whereas the latter accounted for 55% of the total variance in word of mouth ($R^2=0.55$). As a consequence, the results are a sign of adequate model fit between the proposed research model and the empirical data. Surprisingly, the satisfaction among airline passengers is not affected by factors such as airline tangibles ($\beta_1=0.199$, $p>0.05$) and terminal tangibles($\beta_2=-0.025$, $p>0.05$), thus H1 and H2 were not sustained. However, the strongest significant determinant of the satisfaction among airline passengers was empathy ($\beta_3=0.655$, $p<0.05$), supporting H3. Next, passenger satisfaction ($\beta_4=0.640$, $p<0.05$) as posited in H4 significantly influenced their word of mouth recommendations.

**FIGURE 2: The Results of Structural Model**

**DISCUSSION**

This study examined the effects of airline service quality dimensions, such as airline tangibles, terminal tangibles and empathy on customer satisfaction with the service quality of the airline providers. The relationship between customer satisfaction with the
service quality provided and word-of-mouth recommendations was also investigated. Empirical results via SEM revealed that the standardized beta coefficient for H4, (i.e. customer satisfaction significantly influences word-of-mouth recommendations), had the highest values and significance at 5 percent significance level ($p<0.05$) of all the research hypotheses. It connotes that customer satisfaction with the airline provider has increased and their impression of this airline has improved. Simply put, customers have a more positive attitude towards the airline company. This has lead customers to make positive remarks about this airline company to other people. In other words, they encourage their friends and relatives to fly with this airline company. Similar results were obtained in Maenpaa, Kale, Kuusela, and Mesiranta (2008)’s study.

Furthermore, the results indicated that customer satisfaction with the service quality of the airline providers is widely influenced by empathy, hence supporting H3. This result is comparable to that of Odunlami & Ogunsiji (2011)’s study, which concludes that promotional offers are a major determinant of consumer online shopping behaviour. Customer satisfaction with the service quality of the airline providers is developed when the airline providers uphold punctuality of the flight departures and arrivals as well as providing convenient transportation between city and airport. Certainly, care is paid to passengers’ luggage and a compensation scheme is provided in case of loss or hazard. In addition, personnel with health training are available during the flights in case of emergency. Moreover, in-flight cabin crews are very friendly and attentive to passengers’ needs and wants. For instance, passengers’ are served with fine foods and snacks throughout the duration of the flight depending on the duration of the flight. For example, AirAsia continues to improve the quality of inflight meals by offering a greater selection of delectable gourmet foods.

A closer examination discovered that consumers put less emphasis on aspect such as airline tangibles, as these were found to insignificantly impact on customer satisfaction with service quality, thus invalidating H1. This implies that cleanliness of airplane interior toilets, the comfort level of the plane seats and the design of the aircraft generally do not impact on the customers’ level of satisfaction with the service quality as their usage is infrequent and short term. This is also true in relation to the quality of the catering and air-conditioning. This result is consistent with the study of Ekiz et al. (2006).

**CONCLUSION AND RECOMMENDATION**

Customer satisfaction with the service quality of the airline providers has significant and positive influences on customer word-of-mouth recommendations regarding the service delivery of the airline providers, which infers that airline marketing managers should develop various strategies to guarantee quality services to passengers. Provision of excellent quality services should lead to an improved image of the airline and an increase in the number of positive recommendations to friends and relatives via short message service (SMS), emails, and social networking sites such as Facebook and Twitter.

Malaysia Airlines and AirAsia provide convenient reservation and ticketing systems and convenient flight schedules. But still, their marketing managers should continuously implement creative and dynamic strategies in order to improve the quality of service delivery as customers prefer competitive airline providers that offer better value, meeting or even exceeding their expectations. For instance, the analysis showed that
the dimension of empathy was a significant driver of customer satisfaction with service quality. Thus, airline marketers should instill empathy, and endeavour to keep existing passengers, while enhancing passengers’ recommendations to friends and relatives. In short, they should improve their image and create repurchase intention, besides attracting passengers from other airlines. Furthermore, airline marketers should optimize budget allocation on appropriate resources related to marketing activities and increased business profitability and foster sustainability.

Although the effect of the airline and terminal tangibles dimension was not statistically validated in this study, marketers must not overlook this dimension, as it is one of the most important requirements of airline operations. Passengers should be able to differentiate airline provider service delivery (including the airline and terminal tangibles dimension) based on the focus of each provider: It is widely known that Malaysia Airlines associates itself with ‘Malaysian Hospitality’, while AirAsia renowned for its ‘Now Everyone Can Fly’ tag line. It is recommended that future studies address passenger attitudes towards service quality by, for example, investigating the presence of moderating variables, like demographics and culture and by conducting the analysis based on travel or cabin class (i.e., first-class, business-class passengers, and economy-class passengers) as each cluster may have different viewpoints on each dimension of the service quality of the airline providers. Examination and comparison of the perceptions of international and domestic passengers with regard to service quality is also imperative. Opportunities exist to further advance this research by expanding the number of variables and multiplying the sample coverage for a better and more representative data analysis.

REFERENCES


