

# The Effects of Individual Dimensions of Airline Service Quality: Findings From Australian Domestic Air Passengers

## Jin-Woo Park

The Korea Transport Institute,  
South Korea

## Rodger Robertson and Cheng-Lung Wu

The University of New South Wales,  
Australia

This article investigates how in-flight service, reservation and ticketing, airport service, reliability, employee service, flight availability, passenger satisfaction, pricing (value), and airline image determine passengers' future behavioural intentions. For this testing, structural equation modelling was applied to data collected from Australian domestic air passengers. It was found that there were significant relationships between the variables, except in four paths. In-flight service and employee service were found as significant drivers of passenger satisfaction, which was directly related to pricing (value), airline image, and passengers' future behavioural intentions.

**Delivering** high quality service to passengers is important so that airlines can survive and strengthen their competitiveness. Service quality conditions influence an airline's competitive advantage, and with this comes market share, and ultimately profitability (Morash & Ozment, 1994). Since service quality is an important factor for airlines, research related to service quality and customer satisfaction in the airline industry has been growing. A number of researchers have applied service quality theories and methods in airline setting. Yet, where service quality has been examined in the air transport context, most airline service studies have focused on the effect of airline service quality at the aggregate construct level. Although examining the effect of individual dimensions of service attributes has potentially great utility for airline managers (Patterson & Spreng, 1997), the effect of individual dimensions of airline

service quality has not been fully investigated in previous airline service studies.

More recently, research related to corporate image, value, and consumer behaviour in the field of service marketing has progressed. There is some evidence that corporate image and value are important factors in the overall evaluation of the service and the company. Several researchers have attempted to understand the relationship that exists between corporate image, value, and consumer behaviour in various service industries (Andreassen & Lindestad, 1998; Bloemer, Ruyter, & Pascal, 1998; Nguyen & LeBlanc, 1998). However, an understanding of the roles of airline image and value as determinants of passenger behaviour and evaluation of the airline service is lacking.

This study proposes and tests a conceptual framework of the relationships between airline service quality, passenger satisfaction, airline image, value, and passengers' future behavioural intentions. In particular, previous airline service studies have often ignored the effects of individual dimensions of airline

## Correspondence

Jin-Woo Park, Air Transport Research Division, The Korea Transport Institute, Goyong-City, South Korea.  
E-mail: jwp75@paran.com, jwpark@koti.re.kr

service quality; if anything, they have only focused on the effect of the five service dimensions of the SERVQUAL (Parasuraman, Zeithaml, & Berry, 1988) as airline service dimensions. The SERVQUAL's five dimensions and 22-item scales are difficult to apply to airlines because the SERVQUAL instrument does not address other important aspects of airline service, such as in-flight meals, seating comfort, seat space and leg room. Against this background, this article derives airline service dimensions by adapting the SERVQUAL scale to the specific context of aviation and investigates the effects derived dimensions of airline service quality by developing a structural equation model.

The article provides an initial review of literature related to service quality, customer satisfaction, corporate image, and value. The research methodology is then discussed and results from the data analysis are presented. Final discussion of the implications of the study concludes the article.

## Theoretical Background

Service quality is a consumer's overall impression of the relative inferiority/superiority of the organisation and its services (Bitner & Hubbert, 1994). The research on the importance of service quality revealed that delivering high quality in the service industries produces cost savings, better profits, and market share. Delivering high service quality has been recognised as the most efficient way of ensuring that a company's offerings are uniquely positioned in a market filled with look-alike competitive offerings (Parasuraman et al., 1991). Companies that implement a customer-driven strategy based on service quality, differ characteristically from those companies that do not, and it is found that the former companies are usually more successful (Whiteley, 1991).

In the airline industry, service quality is important because delivering high quality service to passengers is essential

for airlines' survival. Airline service quality is a significant driver of passenger satisfaction, passenger loyalty, and passenger's choice of airline (Alotaibi, 1992; Etherington & Var, 1984; Ostrowski, O'Brien, & Gordon, 1993; Ritchie, Johnston, & Jones, 1980; Young, Lawrence, & Lee, 1994; Wells & Richey, 1996). Hence, the delivery of high service quality becomes a marketing requirement as competitive pressures on air carriers increase (Ostrowski et al., 1993).

Customer satisfaction is defined as a judgment made on the basis of a specific service encounter (Cronin & Taylor, 1992). Customer satisfaction is a very important concept in marketing and it is the ultimate goal for service operations. Increasing customer satisfaction leads to improved profits, lower marketing expenditures, and positive word-of-mouth communication (Reichheld, 1990). Most companies assume that there is a strong relationship between customer satisfaction and consumer behaviour. Therefore, they believe that higher customer satisfaction leads to higher purchase intention and word-of-mouth communication. A number of researchers have attempted to explore the relationship that exists between satisfaction and service quality and their impact on customer purchase intentions. However, there have been many debates about the distinction and association between service quality and customer satisfaction.

Since competition created by deregulation in the airline industry has become more intensive and as the notion of service quality in airline operations has consequently become of increasing importance, satisfaction in the airline industry has thus received much attention (Ostrowski et al., 1993). In a competitive environment, satisfying passengers in transportation services has a beneficial effect on a carrier's long-term survival (Rhea & Shrock, 1987). Airlines should know how their services are meeting their passengers' needs and



wants, because the extent to which passenger needs and wants are met has come to mean passenger satisfaction/dissatisfaction. According to Alotaibi (1992), the trend toward emphasising passenger satisfaction is increasing because of three major forces:

- (1) passenger expectation levels are higher, because as carriers provide higher levels of service in an effort to remain competitive, the minimum level of service that passengers are willing to accept also rises;
- (2) carriers' ability to evaluate their performance is improving; and
- (3) more efficient logistics management compels better service (p. 53).

Since customer satisfaction is a significant determinant of passengers' behavioural intentions and therefore crucial to long-term survival of the airline, customer satisfaction is considered as an important variable influencing passengers' behavioural intentions in this article.

Several researchers have applied service quality related theories and methods in the airline industry (Alotaibi, 1992; Chang & Yeh, 2002; Chen, 1997; Kaynak, Kucukemiroglu, & Kara, 1994; Ostrowski et al., 1993; Sultan & Simpson, 2000). Most previous airline service studies have used the SERVQUAL method to evaluate service quality. However, the 22-item scale of SERVQUAL representing five dimensions is not appropriate for measuring all aspects of airline service quality. The stability of the service dimensions across different industries has proved to be weak and some modifications in items or wording are always required by the setting, or by results of tests of the questionnaire (Carman, 1990). Hence, modifications and adaptations should be made to selected questions and dimensions to make them more relevant to airline service quality.

Previous service studies are concentrated in modelling the effect of perceived service quality at the aggregate construct level, though examining the effects of individual dimensions of service attributes

has potentially great utility for practising managers (Patterson & Spreng, 1997). Previous airline service studies have often ignored the effects of individual dimensions of airline service quality, if anything, they have only focused on the effect of the five service dimensions of the SERVQUAL on passenger satisfaction and passenger loyalty (Alotaibi, 1992; Sultan & Simpson, 2000; Tsaur, Chang, & Yen, 2002). The perceptions of airline service quality are quite diverse and do not seem to fit any single existing quality model such as the SERVQUAL or the SERVPERF (Haynes & Percy, 1994). This implies that service quality dimensions and attributes should be selected to reflect the service environment investigated. Therefore, it is worth deriving the nature of airline service quality dimensions and investigating the effects of derived dimensions of airline service quality, rather than just applying the SERVQUAL dimensions and items.

Corporate image can be defined as perceptions of an organisation reflected in the associations held in consumer memory (Keller, 1993). A company with a good image is more likely to stand out in the marketplace because it draws both repeat customers and trial users (Connor & Davidson, 1997). The purpose of image in airlines is to reflect a distinctive competence in comparison with their competitors to allow the airline name, symbol, or identity to mean something distinctive and with a corresponding appeal. A favourable image separates and distinguishes the company from its competitors. Thus, a favourable image of a specific airline can lead to a preferred choice among their choice set when passengers contemplate air travel.

Several services marketing literature have identified corporate image as an important factor in the overall evaluation of the service and the company. Corporate image has an impact on customers' choice of company when service attributes are difficult to evaluate and it also

influences customers' perception of the goods and services offered (Andreassen & Lindestad, 1998). Even though previous studies have been presented regarding the role and the effect of corporate image, it is still unclear whether there is a direct relationship between image and consumer behaviour (Bolemer, Ruyter, & Pascal, 1998).

Airline image is important because an airline with a good image is more likely to stand out in the marketplace, as it draws repeat customers and trial users (Connor & Davidson, 1997). In addition, a passenger's image of the airline is more important in explaining their loyalty than is the evaluation of the current flight (Ostrowski et al., 1993). Understanding the role of airline image in the passenger retention decision is a key issue that has received little attention in the airline service marketing area (Nguyen & LeBlanc, 1998). Neither, the role and the effect of airline image have been fully investigated yet. Since airline image is an important factor that influences passengers' choice of airline and passenger loyalty, the role and the effect of airline image should be investigated.

Value can be defined as customer's overall assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml, 1988). In spite of the importance of perceived value as a form of assessment of airline services, there has been limited work conducted in the airline services marketing literature about the exact nature of the construct and its influence on passenger behaviour (Nguyen & LeBlanc, 1998).

Value-added services are ways in which companies can gain competitive advantages in the airline industry (Dennett, Ineson, Stone, & Colgate, 2000). For example, value-added strategies such as frequent flyer programs increase the long-term value of the relationship with the airline, offering greater benefits to repeat passengers than to occasional passengers

(Dube & Maute, 1998). Passengers are comparing the airline with other airlines, as well as against many industries and on many factors. Thus, airlines need to give their passengers a superior experience and good value (Wirtz & Johnston, 2003).

The price to be paid for a service determines, in the passenger's mind, the level of quality to be demanded (Teboul, 1991). Airline passengers have raised their expectations with regard to the level of service quality, while seeking better value for their money. Offering good service to passengers may not be good enough to attract and retain passengers. Passengers seek value as a combination of fares and quality. Therefore, airlines should offer good value to passengers to gain a competitive advantage.

## Research Methodology

Based on the review of previous literature with regard to service quality, customer satisfaction, corporate image, and value, a structural equation model is developed to study related effects simultaneously in this article. Questionnaire design and measurements, pilot study, passenger survey, and developing a structural equation model are discussed in this section.

### *Questionnaire Design and Measurements*

This study endeavoured to develop an instrument to better understand the determinants of passengers' perception of airline service quality. To develop airline service quality measures, in-depth interviews and focus group interviews were held with airline staff, airline passengers, and academics in the aviation field. During the in-depth interviews, participants were asked to express their views on airline service quality — especially what comprises airline service quality, what kind of service airlines provide, and how airline service quality differs from service quality in other service industries.

Focus group interviews were utilised to gather qualitative data regarding airline service quality. Two different focus groups were held. The first group was composed of five college students who have used airline services recently. The second group was made up of six passengers who have different travel experiences and demographic features in terms of seat class, usage frequency, age, sex, and occupation. The members of the second focus group have used the airline services in the last 12 months. The researcher introduced the topic, the purpose of the focus group, and how the focus group would be conducted. Participants were told that the purpose of the focus group was to ask for passengers' opinions on airline service quality. Participants were encouraged to discuss the subject among themselves by sharing their views and thoughts. The views from in-depth interviews and focus group interviews resulted in an extensive list of attributes of airline service quality.

The airline service quality dimensions and items drawn from in-depth interviews and focus group interviews were examined by academics at the Department of Aviation, The University of New South Wales. In addition, the service quality measurement items drawn from the interviews and academics' reviews were checked against other independent sources of literature related to service quality. These resulted in the development of service quality dimensions and measurement items suitable for the airline industry. The instrument for measuring airline service quality encompasses six dimensions named: in-flight service, reservation and ticketing, airport service, reliability, employee service, and flight availability.

The measurement items of passenger satisfaction, airline image, value, and behavioural intentions were developed on the extensive literature and these items were examined by academics to assure clarity. Passenger satisfaction

was measured by two measurement items and airline image was measured by asking passengers three measurement items. Value was measured by two measurement items and behavioural intentions were measured by two measurement items using the passengers' intention to repurchase and willingness to recommend the airline to other people.

### *Pilot Study*

A pilot study was conducted to see if any of the statements were difficult for subjects to understand and to assess face validity. A convenience sample of passengers who have recent experience of airline services was used. Two separate pilot studies were conducted. First, 50 questionnaires were distributed to passengers to assure the clarity of the measurement items. Passengers were asked to complete the questionnaire and give their overall comments about the questionnaire. Among the 50 questionnaires, 44 questionnaires were collected with valuable comments. Based on the passengers' comments, one revision was made. Several passengers mentioned that two items, 'variety of routes' and 'understanding the specific needs of passengers', were difficult to evaluate with their experience and knowledge. These two measurement items were reviewed by academics and these items were deleted for the final survey questionnaire, thus the revised questionnaire contained 22 measurement items.

The revised survey questionnaire was tested a second time using 55 passengers who have used airline services in the last 12 months. In total, 41 questionnaires were collected. The revised survey questionnaire was utilised as the final questionnaire since the pilot study proved that the questionnaire was understood as intended and respondents could complete the survey in a relatively short time. The measurements items used in this article are shown in Table 1. All of the items were measured on a 7-point Likert-type scale.

**Table 1****Measurement Items**

<b>Dimensions</b>	<b>Measurement Items</b>
In-flight service	Up-to-date aircraft and in-flight facility Meal service (items, tastes, freshness, etc.) Seating comfort Seat space and leg room In-flight entertainment services (movies, magazines, etc.)
Reservation and ticketing	Convenience of reservation and ticketing Promptness and accuracy of reservation and ticketing
Airport service	Check-in service (waiting time, efficiency, etc.) Promptness and accuracy of baggage delivery Seat allocation
Reliability	On-time performance Sincere interest in solving problems (flight delays, baggage loss, etc.) Safety of flying
Employee service	Neat appearance of employees Employees who are willing to help passengers Courtesy of employees Employees who have the knowledge to answer passengers' questions Give passengers personal attention
Flight availability	Convenient flight schedule Availability of non-stop flight
Passenger satisfaction	Overall, how satisfied are you with the airline's service quality? My choice to use this airline was a wise one
Airline image	I have always had a good impression of this airline I believe that this airline has a better image than its competitors In my opinion, this airline has a good image in the minds of passengers
Pricing (value)	Considering the services that this airline offers, are they worth what you paid for them? The ticket price of this airline is reasonable
Behavioural intentions	Would you consider flying on this airline again in the future? Would you recommend this airline to other people?

***Passenger Survey***

The survey was conducted at the domestic terminal of Sydney Airport in September 2003. Sampling was done by interviewing randomly selected passengers, at different times of the day, on every day of the week, over a 2-week period. The data were gathered from Australian domestic passengers who had undertaken at least one domestic flight in the previous 12 months. A total of 620 questionnaires were distributed to Australian domestic passengers. Some 567

completed questionnaires were collected, but 54 questionnaires were incomplete, leaving 503 samples for data analysis. The passenger profiles are given in Table 2.

***Developing a Structural Equation Model***

Confirmatory factor analysis was conducted to validate using six dimensions of airline service quality. Confirmatory factor analysis addresses the situation wherein the researcher specifies a model a priori, and tests the conjecture that a relationship between the observed and

**Table 2****Passenger Profiles**

Attributes	Distribution	Sample Number	Frequency (%)
Gender	Male	267	53.1%
	Female	235	46.7%
	Missing	1	0.2%
Age	Less than 20	40	8.0%
	20–29	133	26.4%
	30–39	80	15.9%
	40–49	93	18.5%
	50–59	93	18.5%
	60 and over	62	12.3%
	Missing	2	0.4%
Occupation	Professional	73	14.5%
	Student	76	15.1%
	Management	50	9.9%
	Housewife	32	6.4%
	Employee of company	106	21.1%
	Government employee	29	5.8%
	Private business	66	13.1%
	Others	66	13.1%
	Missing	5	1.0%
Income	A\$17,999 or less	55	10.9%
	A\$18,000—35,999	75	14.9%
	A\$36,000—53,999	93	18.5%
	A\$54,000—71,999	94	18.7%
	A\$72,000 or more	162	32.2%
	Missing	24	4.8%

Note: A\$1 is equivalent to US\$0.76 (in July, 2005)

the latent variables does in fact exist (Sureshchandar, Rajendran, & Anantharaman, 2002). The results of confirmatory factor analysis suggested that the six-dimension conceptualisation fitted the data appropriately for Australian domestic passengers (Table 3). In particular, a comparative fit index (CFI) of 0.90 or above for the model implies that there is strong evidence of unidimensionality, which refers to the existence of a single construct underlying a set of measures (Byrne, 1994). Based on the result of confirmatory factor analysis, it was concluded that airline service quality could be considered a multi-dimensional construct consisting of six dimensions.

The six individual airline service dimensions measurements encompassing passenger satisfaction, airline image, value, and behavioural intentions were included in the structural equation model (Figure 1). The hypotheses to be tested empirically are shown in Table 4 — all the paths were hypothesised to be positive. In-flight service, reservation and ticketing, airport service, reliability, employee service, flight availability, passenger satisfaction, airline image, value, and behavioural intentions were treated as latent variables with multiple indicator measures. The observed variables were measures of in-flight service, reservation and ticketing, airport service, reliability, employee service, flight availability,

**Table 3**  
**Confirmatory Factor Loadings and Goodness-of-Fit Statistics**

Dimensions	Variables	Loadings	Standardised Loadings
In-flight service	Up-to-date aircraft and in-flight facility	1.000	0.450
	Meal service	1.595 (8.587)	0.540
	Seating comfort	2.439 (10.565)	0.955
	Seat space and legroom	2.369 (10.528)	0.887
	In-flight entertainment services	1.235 (8.176)	0.441
Reservation and ticketing	Convenience of reservation and ticketing	1.000	0.872
	Promptness and accuracy of reservation and ticketing	1.043 (23.093)	0.915
Airport service	Check-in service	1.000	0.703
	Promptness and accuracy of baggage delivery	1.034 (14.870)	0.750
	Seat allocation	0.978 (13.374)	0.666
Reliability	Safety of flying	1.000	0.710
	Sincere interest in solving problems	1.005 (15.292)	0.784
	On-time performance	0.656 (12.085)	0.614
Employee service	Neat appearance of employees	1.000	0.667
	Employees who are willing to help passengers	1.448 (17.855)	0.904
	Courtesy of employees	1.509 (18.234)	0.938
	Employees who have the knowledge to answer passengers' questions	1.234 (16.164)	0.804
	Give passengers personal attention	1.368 (15.700)	0.794
Flight availability	Convenient flight schedule	1.000	0.903
	Availability of non-stop flight	0.751 (11.756)	0.621

$\chi^2 = 566.773$  ( $p < .001$ ,  $df = 150$ )

GFI = 0.898

AGFI = 0.858

TLI = 0.910

CFI = 0.929

RMSEA = 0.075

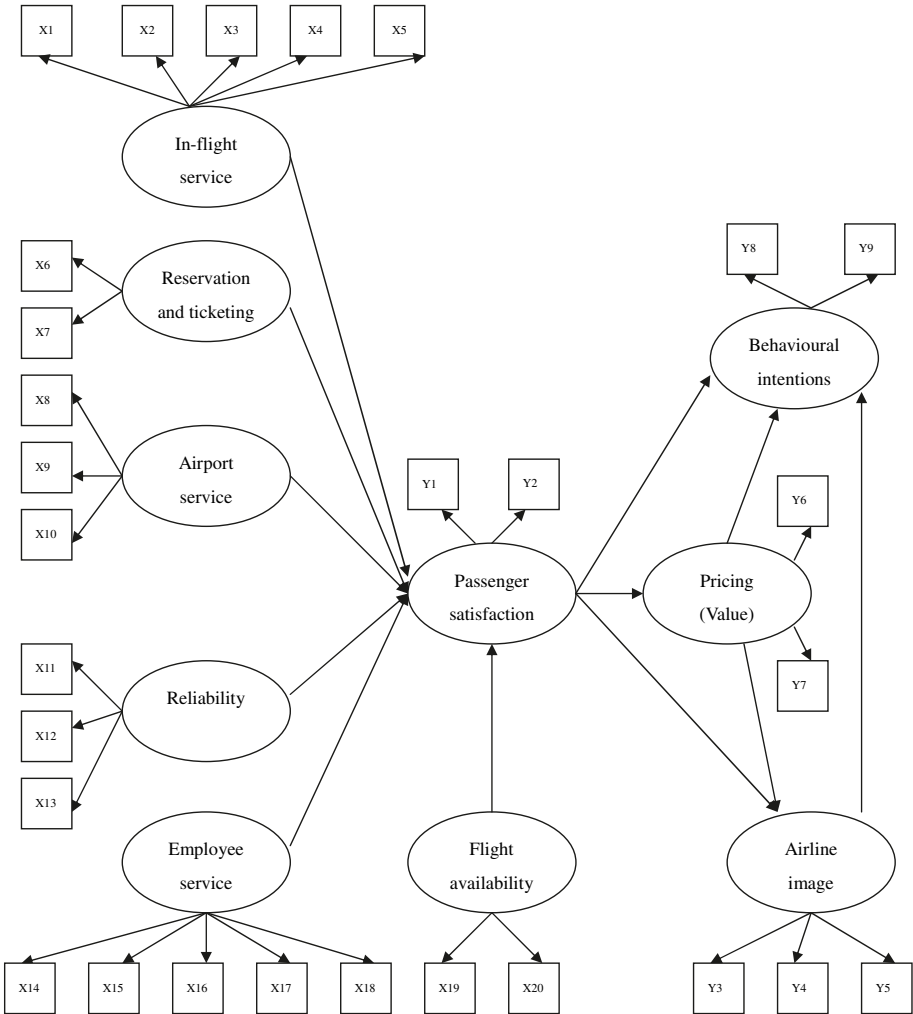
Note: The values in parentheses are critical ratios and all the values are significant ( $p < .001$ )

passenger satisfaction, airline image, value, and behavioural intentions. Observed variables (e.g., X1 ~ X5) were based on passengers' actual responses to corresponding measurement items on the survey form. Observed variables in the same group (e.g., X14 ~ X18) were used as indicators of the corresponding service dimension (i.e., employee service). Passenger satisfaction, airline image, value, and behavioural intentions were also represented by observed variables

(i.e., Y1 ~ Y2, Y3 ~ Y5, Y6 ~ Y7, and Y8 ~ Y9) calculated from passengers' survey responses.

Passenger satisfaction was correlated with in-flight service, reservation and ticketing, airport service, reliability, employee service, and flight availability. Value was correlated with passenger satisfaction. Airline image was correlated with passenger satisfaction and value. Behavioural intentions were correlated with passenger satisfaction, value, and airline image.





**Figure 1**

Structural equation model.

**Analysis and Results**

*Reliability of Measures*

To assess reliability, internal consistency methods are widely used and generally Cronbach’s alpha is used to assess internal consistency. Cronbach’s alpha is the average of all possible split-half coefficients resulting from different ways of splitting the scale items and a value of .6 or less generally indicates unsatisfactory consistency reliability (Malhotra, Hall,

Shar, & Crisp, 1996). The Cronbach’s alpha of each measure is presented in Table 5. The internal consistency reliability of each measure was more than .7, which implies the reliability of the measure is very high.

*Correlation Analysis*

Correlation analysis was conducted between individual dimensions of airline service quality, passenger satisfaction,

**Table 4****The Hypotheses of Relationships Between Model Variables**

H1:	In-flight service has a positive effect on passenger satisfaction.
H2:	Reservation and ticketing has a positive effect on passenger satisfaction.
H3:	Airport service has a positive effect on passenger satisfaction.
H4:	Reliability has a positive effect on passenger satisfaction.
H5:	Employee service has a positive effect on passenger satisfaction.
H6:	Flight availability has a positive effect on passenger satisfaction.
H7:	Passenger satisfaction has a positive effect on value.
H8:	Passenger satisfaction has a positive effect on airline image.
H9:	Passenger satisfaction has a positive effect on behavioural intentions.
H10:	Value has a positive effect on airline image.
H11:	Value has a positive effect on behavioural intentions.
H12:	Airline image has a positive effect on behavioural intentions.

airline image, value, and passengers' behavioural intentions. The result of correlation analysis is shown in Table 6. The relationships between the variables are presented as Pearson correlation coefficients. The results showed that in-flight service, reservation and ticketing, reliability, airport service, employee service, flight availability, passenger satisfaction, airline image, and value had a positive correlation with behavioural intentions at the .01 level of statistical significance.

**Model Fitness**

Generally in structural equation modeling, the fit of the model using chi-square

is not always as straightforward as assessment of the fit of the model, because chi-square value is not independent of sample size. Hence, various kinds of fit indexes have been developed that are supposedly independent of sample size (Hoyle, 1995; Marsh, Balla, & McDonald, 1988). Among various fit indexes the Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI) seem to be relatively unaffected by sample size (Marsh et al., 1988). The model developed here has a relatively large sample size and various indexes were used here to assess the fit of the model in this study. Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA) were used to assess the fit of the model. The fit of the conceptual model is presented in Table 7. The various fitness indices for the model indicated that the theoretical model provided an excellent fit to the data.

**Testing Hypotheses**

The proposed conceptual model explained a substantial amount of variance in key variables. The model explained 57% of variance in passenger satisfaction, 42% of variance in value,

**Table 5****Reliability of Measures**

	Cronbach $\alpha$
In-flight service	.8165
Reservation and ticketing	.8893
Airport service	.7509
Reliability	.7243
Employee service	.9192
Flight availability	.7376
Passenger satisfaction	.9338
Airline image	.8634
Value	.8570
Behavioural intentions	.9436

**Table 6****The Result of Correlation Analysis**

	IF	RT	AS	RE	ES	FA	PS	AI	VA	BI
In-flight service (IF)	1.000									
Reservation and ticketing (RT)	.358*	1.000								
Airport service (AS)	.474*	.650*	1.000							
Reliability (RE)	.485*	.569*	.659*	1.000						
Employee service (ES)	.391*	.500*	.534*	.636*	1.000					
Flight availability (FA)	.390*	.482*	.498*	.488*	.538*	1.000				
Passenger satisfaction (PS)	.514*	.464*	.546*	.605*	.580*	.483*	1.000			
Airline image (AI)	.426*	.326*	.386*	.451*	.452*	.359*	.680*	1.000		
Value (VA)	.279*	.338*	.361*	.365*	.404*	.333*	.557*	.516*	1.000	
Behavioural intention (BI)	.389*	.359*	.415*	.462*	.457*	.348*	.736*	.733*	.592*	1.000

Note: \*Correlation is significant at the .01 level (2-tailed)

61% of variance in airline image, and 72% of variance in behavioural intentions. Thus, there a high level of explanatory power emerges. The result of hypotheses testing is presented in Figure 2 and Table 8.

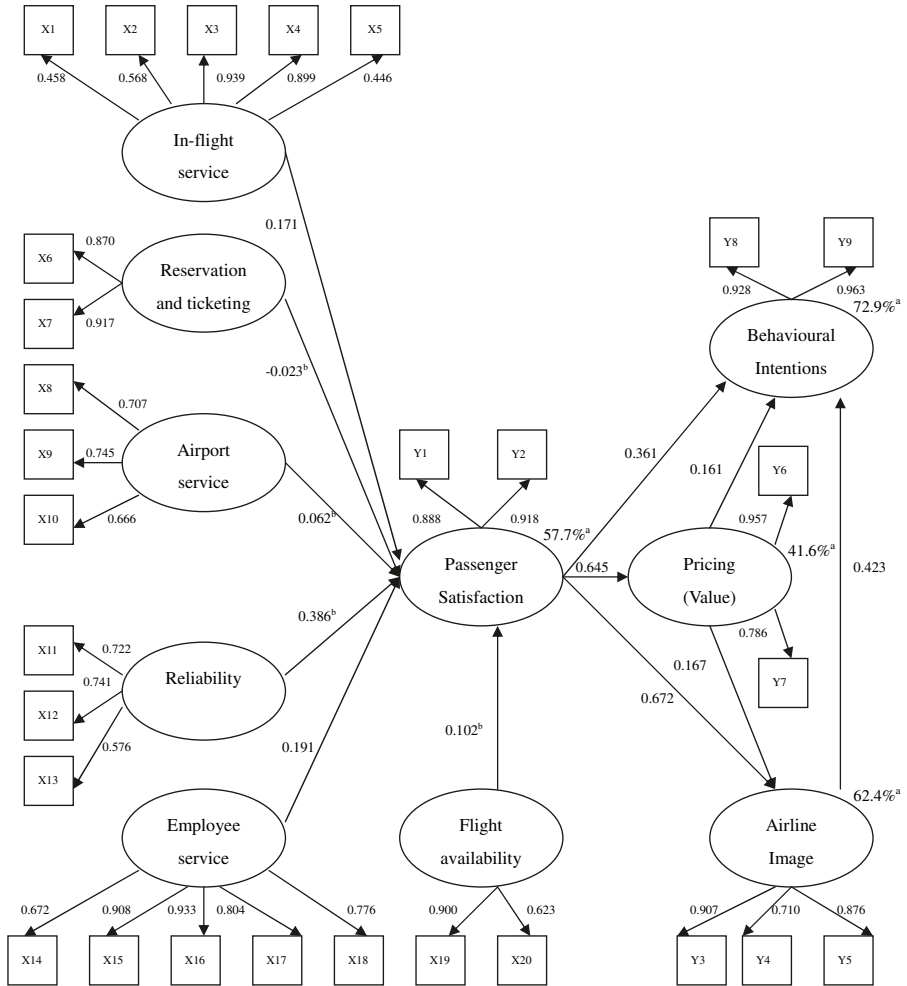
Except for four causal paths, all the other hypothesised relationships were statistically significant ( $p < .05$ ). The four statistically insignificant paths were the effect of reservation and ticketing service dimension on passenger satisfaction, the effect of airport service dimension on passenger satisfaction, the effect of reliability dimension on passenger satisfaction, and the effect of flight availability dimension on passenger satisfaction. In this model, significant relationships were found between in-flight service dimension, employee service dimension, passenger satisfaction, airline image, value, and behavioural intentions.

In-flight service dimension and employee service dimension were found

to have a positive effect on passenger satisfaction. These results indicate that if air passengers are satisfied with in-flight service and employee service, they are more likely to be satisfied with the airline. Passenger satisfaction had a positive influence on airline image, value, and behavioural intentions. This finding suggests that satisfied passengers will form a favourable overall image of the airline and will perceive a good value for money, resulting in them travelling on the airline again in the future and recommending the airline to others. Value had a positive effect on airline image and behavioural intentions. This suggests that passengers' value perception is a key driver of Australian domestic passengers' airline image formation and future behavioural intentions. Airline image had a positive effect on passengers' behavioural intentions. This implies that passengers who form a positive overall impression of the image of the airline are

**Table 7****Goodness of Fit Measures**

Fit Measure	$\chi^2$	GFI	AGFI	TLI	CFI	RMSEA
Value	931.270	0.887	0.857	0.931	0.941	0.058
	( $df = 345, p < .001$ )					



**Figure 2**  
Result of the structural equation model.

Note: <sup>a</sup> the amount of variance explained  
<sup>b</sup> statistically insignificant.

more likely to fly the airline again and recommend the airline to others.

The analysis also showed that in-flight service dimension and employee service dimension influence passengers' behavioural intentions positively through passenger satisfaction. This finding suggests that in-flight service and employee service influence passengers' repurchase intentions and the intention to recommend the airline to others indirectly by means of

passenger satisfaction.

## Discussion

### Managerial Implications

Based on previous results, some concluding remarks are drawn as follows. First, airlines should realise the importance of individual service dimensions for improving airline service quality. Based on the report from SKYTRAX,<sup>1</sup>



**Table 8**  
**The Result of Hypotheses Testing**

Relationships	Standardised regression weights	Critical ratios	p values
In-flight service — Passenger satisfaction	0.171	3.367	.000**
Reservation and ticketing — Passenger satisfaction	-0.023	-0.284	.777
Airport service — Passenger satisfaction	0.062	0.326	.744
Reliability — Passenger satisfaction	0.386	1.853	.063
Employee service — Passenger satisfaction	0.191	2.541	.011*
Flight availability — Passenger satisfaction	0.102	1.639	.101
Passenger satisfaction — Value	0.645	15.407	.000**
Passenger satisfaction — Airline image	0.672	13.546	.000**
Passenger satisfaction — Behavioural intentions	0.361	5.958	.000**
Value — Airline image	0.167	3.656	.000**
Value — Behavioural intentions	0.161	3.989	.000**
Airline image — Behavioural intentions	0.423	6.607	.000**

Note: \* indicates significance level < .05  
 \*\* indicates significance level < .001.

the quality of airline service differed among Australian domestic carriers. In particular, the quality of onboard features and cabin staff service was found to be different between Qantas and Virgin Blue. From this report, it was easy to observe passengers' different opinions comparing two alternative airline services on the basis of his/her experiences. Because the quality of individual dimensions of airline service is different among airlines, understanding and improving the important dimension of airline service quality can make passengers more satisfied.

The analysis showed that in-flight service and employee service were significant drivers of passenger satisfaction, which was directly related to Australian domestic air passengers' future behavioural intentions. Airlines should realise that improvements in these two service dimensions should enhance passengers' repurchase intentions and their recommendation to other passengers through increased passenger satisfaction. Airlines should allocate the appropriate resources across these two service dimensions. For example, airlines should strive to develop strategies for improving service quality such as improving the quality of in-flight

meals, meeting passengers' desired service levels, providing a variety of in-flight entertainment systems that passengers desire, conducting passengers in a consistent and caring manner, and so on. These strategies will enhance passenger satisfaction and will result in keeping existing passengers and enticing passengers from other airlines.

Second, this study has important implications regarding passenger satisfaction for Australian domestic airlines. Passenger satisfaction is an important driver of airline image, value, and passengers' behavioural intentions so airlines should focus more resources on enhancing this area. Australian domestic airlines can attract the passengers of their competitors and keep their existing passengers by enhancing a level of passenger satisfaction.

Third, these results have important implications regarding airline image. The analysis showed that airline image had a significant effect on passengers' behavioural intentions. This indicates that Australian domestic air passengers might respond to strategies that highlight a favourable image in their choice of airline. Therefore, the inference for airlines is to continue to emphasise building a favourable image as a means of improving

passengers' repurchase rate and their recommendation to other passengers. In particular, airlines should have a relative attractiveness in their image, which is significantly different from other airlines, in order to attract new passengers or retain existing passengers.

Fourth, airlines should recognise pricing (value) as a contributing factor to airline image and passengers' behavioural intentions. Value (as a reflection of price) was found to have a significant positive effect on airline image and passengers' behavioural intentions. Passengers are concerned about ticket prices, and that concern is reflected in passengers' assessment of value. The implication for airlines is that they should understand trade-offs are required between service quality and ticket prices before they develop marketing strategies, and then they should develop strategies that enhance passengers' value perceptions (such as having special promotions, setting appropriate ticket prices for services, conducting passengers in a consistent and caring manner, providing beneficial frequent flyer program to passengers and so on).

Finally, the important thing for airlines is to understand the relative importance of the drivers of passenger satisfaction. The relative importance of in-flight service and employee service differed, so airlines should recognise the relative importance of each dimension to utilise their resources more efficiently, and to improve the more important factors that can enhance passenger satisfaction.

Employee service was found to be the most important factor that influenced Australian domestic passengers' satisfaction. The implication for Australian domestic carriers is to invest in training airline employees to handle passengers more appropriately, because many negative and positive influences arise from human interaction between employees and passengers. Even though some problems, such as flight delays and flight cancellation, are not

caused by airline employees, their handling of the problems can either frustrate or appease passengers. Therefore, airlines should train airline employees to give passengers personal attention, to be polite to passengers, and to have appropriate knowledge to answer passengers' questions. These strategies will enhance passenger satisfaction and will result in keeping existing passengers and enticing passengers from other airlines.

## Conclusions

This article has presented a model of individual dimensions of airline service quality. Based on the proposed conceptual framework of the linkages between constructs, all hypothesised relationships appeared to be statistically significant, except for four causal paths. This article disclosed that there were significant relationships between in-flight service, employee service, passenger satisfaction, airline image, value, and behavioural intentions. These variables were directly or indirectly related to passengers' repurchase intentions and word-of-mouth communications. The results from a study of Australian domestic passengers imply that airlines should recognise the relative importance of individual service dimension and develop various strategies to guarantee providing quality services to passengers. Airlines should realise that improvements in important airline service dimensions should enhance passengers' repurchase intention and their recommendation to other passengers through increased passenger satisfaction. Failure to provide quality services to passengers may cause lowered passenger satisfaction and airline image and may cause negative impact on passengers' future behavioural intentions.

## *Limitations and Future Research*

There are some limitations and additional research areas of interest remaining for future studies. First, this study was limited in the context of airline services for domestic passengers. International

passengers' perception of service quality and behavioural intentions might be different from those of domestic passengers. Hence, an empirical examination needs to assess how international passengers' perception of service quality and behavioural intentions differ from those of domestic passengers.

Second, the effect of individual dimensions of airline service quality and passengers' behavioural intentions might differ according to passengers' travel experiences — such as seat class, usage frequency, purpose of trip and demographic features such as gender, income, age, education level. Thus, future research that includes the analysis of travel and demographic variables with respect to individual dimensions of airline service quality, passenger satisfaction, airline image, and passengers' behavioural intentions would be valuable.

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## Endnote

1 <http://www.airlinequality.com/Airlines>

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