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## Passengers' Perspective of Airport Service Quality at Suvarnabhumi International Airport ความรู้สึกของพนักโดยสารที่มีต่อคุณภาพการบริการ สนามบินที่สนามบินนานาชาติสุวรรณภูมิ

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### บทคัดย่อ

วัตถุประสงค์ของการศึกษาในครั้งนี้ คือ การพัฒนารูปแบบแนวความคิดของการรับรู้คุณภาพการบริการในสนามบินโดยปรับแนวคิดของความคาดหวังภายใต้วิธีการของ Fodness และ Murray (2007: 492-506) เพื่อใช้ในการวัดคุณภาพการให้บริการโดยมุ่งเน้นที่การรับรู้คุณภาพการบริการของผู้โดยสาร ในการศึกษาครั้งนี้ ผู้วิจัยใช้วิธีการเชิงปริมาณเพื่อทดสอบวัตถุประสงค์เพื่อวัดการรับรู้และความพึงพอใจของผู้โดยสารในคุณภาพการให้บริการของสนามบินที่สนามบินนานาชาติสุวรรณภูมิประเทศไทย แบบสอบถามเก็บรวบรวมจากผู้โดยสาร 500 คน ที่ใช้สนามบินนานาชาติสุวรรณภูมิเพื่อเดินทางออก เดินทางเข้ามา หรือเปลี่ยน/ต่อสายการบิน ผลของการวิเคราะห์ที่ปัจจัยได้ระบุดังต่อไปนี้: 1) สภาพแวดล้อมของผู้ให้บริการ 2) ความสัมพันธ์ของพนักงานและผู้โดยสาร และ 3) การให้บริการในแต่ละพื้นที่ ผลของการศึกษาระบุว่าการรับรู้ความพึงพอใจของผู้โดยสารที่มีต่อคุณภาพการบริการของสนามบินมีอิทธิพลทางบวกต่อความพึงพอใจรวมของผู้โดยสาร ในการเปรียบเทียบการรับรู้ของคุณลักษณะคุณภาพการบริการสนามบินและข้อมูลส่วนตัวของผู้โดยสาร (จุดประสงค์ของการเดินทาง จุดประสงค์ที่ใช้สนามบิน และความบ่อยครั้งของการเดินทาง) ระหว่างผู้โดยสารคนไทยและผู้โดยสารคนต่างชาติ ผลสรุปแสดงให้เห็นว่ามีความแตกต่างอย่างมีนัยสำคัญในคุณลักษณะคุณภาพการบริการสนามบินระหว่างผู้โดยสารคนไทยและผู้โดยสารคนต่างชาติ

**คำสำคัญ:** คุณภาพการบริการสนามบิน ความพึงพอใจผู้โดยสาร สนามบินนานาชาติสุวรรณภูมิ

## **Abstract**

The purpose of this study is to contribute to the development of a conceptual model of perceived service quality in airports. The study adapted the concept of expectations underlying Fodness and Murray's (2007: 492-506) selection of methodology for measuring service quality, with a focus on passenger perceived service quality. In this study, the researcher used a quantitative method to test an objective approach to measuring passengers' perception and satisfaction of airport service quality at Suvarnabhumi International Airport, Thailand. Questionnaires were collected from 500 passengers who had arrived, were departing or transiting at Suvarnabhumi International Airport. The results of factor analysis identified three items: 1) Environment Service Provider, 2) Personnel and Passengers' Relationship, and 3) Servicescape (areas providing a variety of services). The findings of this study indicated that passenger perceptions of satisfaction concerning airport service quality have a positive influence on overall passenger satisfaction. After comparing the perception of airport service quality attributes and passengers' demographic profiles (purpose of travel, trip orientation, and frequency of travel) between Thai and foreign passengers, the results showed that there were significant differences in airport service quality attributes between Thai and foreign passengers.

**Keywords:** Airport Service Quality, Passenger Satisfaction, Suvarnabhumi International Airport

## **Introduction**

The airport industry is changing rapidly. Today's air travelers have meaningful choices between airports and there is an increasing urgency among airport marketers to differentiate themselves by meeting the needs of customers better than the competition. Airports are one of the more crucial elements of the transportation system. They offer the entire infrastructure needed to allow passengers and freight to

transfer from surface to air mode of transport by providing for airliners to take off and land. The basic airport infrastructure and facilities consist of runways, taxiways, apron space, passenger terminals, cargo warehouses and ground transport interchanges. Airports bring together a wide range of facilities and services in order to be able to fulfill their function within the air transportation industry.

The growth of the global tourist industry and modern Bangkok has played a crucial role in establishing Thailand both as a favorite vacation destination and emerging place for business opportunities. In order to secure the designation of a world class city, Bangkok has striven to become an aviation hub for the Southeast Asian region. Boosted by Thailand's geographical advantage, the new Bangkok International Airport, named suvarn = golden and bhumi = land (Suvarnabhumi meaning the golden land). Suvarnabhumi International Airport pronounced su-wan-na-poom, also known as (new) Bangkok International Airport, is the international airport serving Bangkok, Thailand. Suvarnabhumi International Airport was opened on September 28, 2006; and has become one of the key economic strengths of the country. Suvarnabhumi International Airport has 2 runways and is able to handle 61 flights per hour, 45 million passengers and 3 million tons of cargo per year.

One of the biggest challenges for Suvarnabhumi International Airport management is how to provide and maintain passenger satisfaction. Even though airports are usually monopolies, the elements of airport service have become more critically important. Management teams increasingly do research and focus on passenger perspective and the research findings

identify airport service quality and passenger satisfaction as key success factors in the battle for leadership in the air transportation industries.

Suvarnabhumi International Airport has a great opportunity to build a reputation, the highest international standard, and to generate additional substantial revenue from financial and commercial services, including retail and entertainment businesses, in airport areas. For all these reasons, it is necessary to measure passengers' satisfaction level concerning airport service quality, and use it to develop the highest quality of international airport service at Suvarnabhumi International Airport.

## **Problem Statement**

Because of the lack of competition between airports, the marketing and services literature has shown little interest in airports and especially in air travelers; a diverse group who consume while spending much time in the airport's complex servicescape (Fodness and Murray, 2007: 493). To summarize the current situation in relation to service quality theory in the airport industry, there are compelling reasons to manage service quality. As a matter of fact, airports commonly measure service attributes. However, there is a limited amount of conceptual and empirical work on

passengers' perceptions of airport service quality and even fewer studies on passenger expectations, but most importantly, no widely accepted and integrated model of the multi-dimensional passenger expectations (Fodness and Murray, 2007: 493-494).

Airport passengers come from diverse cultures around the world with different expectations, so it is difficult for airport management to recognize what kind of service passengers expect to receive from an airport service provider and what their perception is of their service encounter. To better serve numerous types of passengers, it is important to have a clear understanding of what they want in each service sector and how they perceive the actual service quality. This paper will examine which attributes of airport service quality influences passenger satisfaction at Suvarnabhumi International Airport.

### **Purpose of the Study**

The purpose of this study is to contribute to the development of a conceptual model of perceived service quality in airports by adapting the concept of expectations underlying Fodness and

Murray's (2007: 492-506) selection of methodology for measuring service quality, with a focus on passenger perceived service quality. Fodness and Murray suggested that for a model to be fully developed as a global measure of airport service quality, it should be tested in different locations. Lubbe, Douglas, and Zambellis (2011: 224-227) worked on service quality and focused on service performance and importance measuring methodologies for analyzing airport service quality by applying the model by Fodness and Murray's (2007: 497).

### **Research Objectives**

The following three objectives are addressed in this study:

1. To examine the passengers' perception of airport service quality in different airport service sectors.
2. To determine which attributes of airport service quality (function, interaction, and diversion) have influenced and affected passengers' satisfaction at Suvarnabhumi International Airport.
3. To determine the level of passengers' satisfaction toward airport service quality.

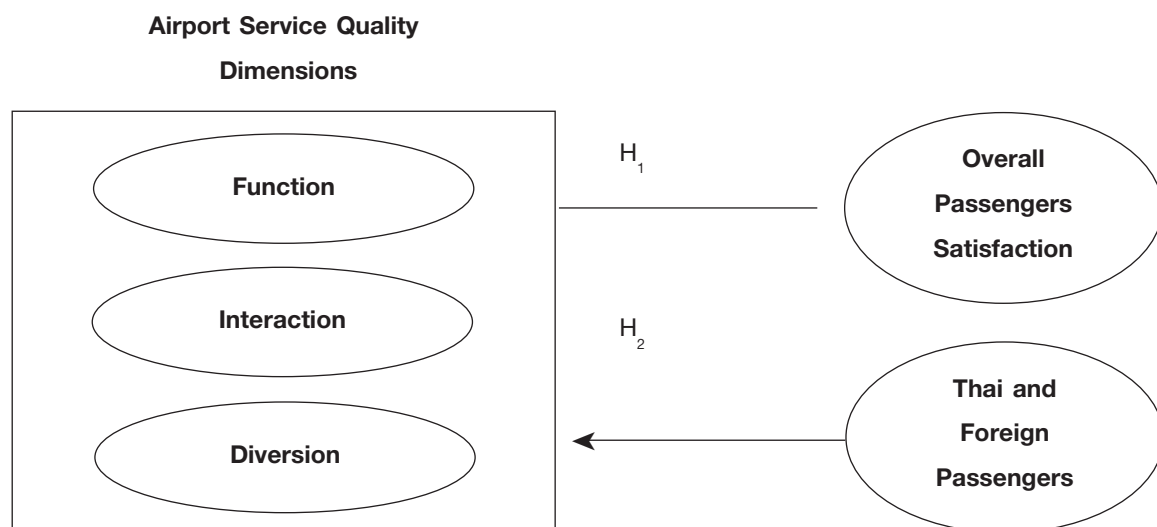
**Table 1** Hypotheses of Airport Service Quality

Hypotheses	Antecedents of Airport Service Quality Factors
H <sub>1</sub> :	Passengers' satisfaction perception factors have a positive influence on overall passengers satisfaction.
H <sub>2</sub> :	There is a significant difference in airport service quality factors between type of passengers (Thai and Foreigner).

### Significance of the Study

This research contributes both academically and practically. Firstly, this study provided evidence of the airport service quality attributes that influence passenger satisfaction. Secondly, this study provided a practical airport marketing perspective for airport management to measure airport service quality in order to: 1) assess passenger perceptions of airport

service quality at Suvarnabhumi International Airport, 2) identify and prioritize service areas requiring managerial attention and action to ensure and improve service quality and passenger satisfaction, and 3) provide the airport management with indications of how to establish and sustain a competitive advantage based on a service quality strategy.



**Figure 1** Conceptual Model of Airport Service Quality

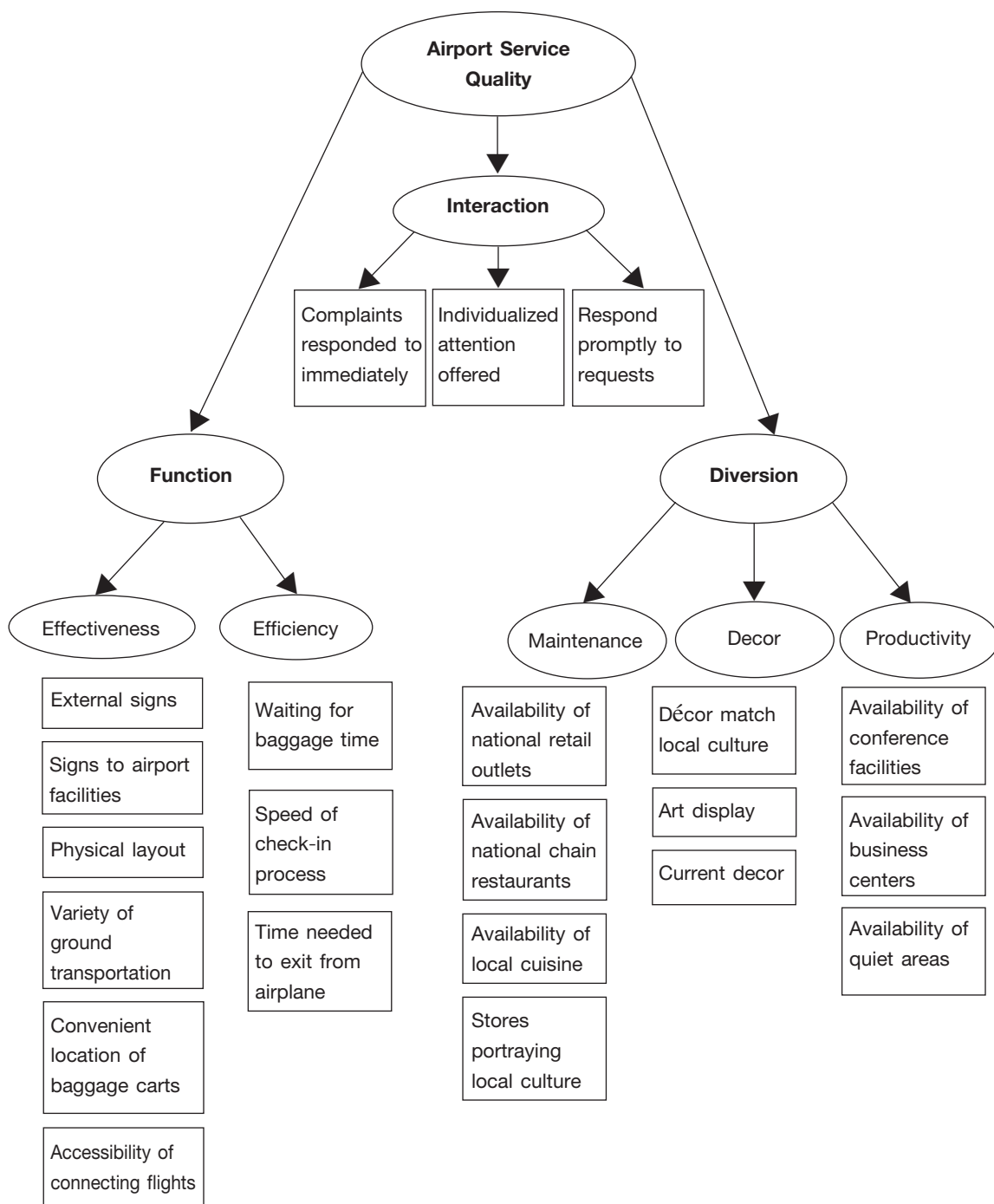
## **Review of Literature**

### **The Development of Airport Service Quality**

Fodness and Murray (2007: 492-506) constructed a preliminary conceptual model of airport experience expectations by using data obtained from passengers in qualitative research and from the proscriptions provided by relevant literatures. In addition to providing the data for the development of preliminary conceptual bases for passenger expectations of airport service quality, the researchers generated an item pool for the construction of a related expectations measurement instrument. The results from the three qualitative studies were compiled to create a master list of airport service quality themes. Duplicated references were eliminated. The final list comprised 65 airport service quality themes. The resulting model of airport service quality expectations is composed of three primary dimensions –

servicescape, interaction and services. In addition, the model suggested that each dimension has three subdimensions.

Fodness and Murray (2007: 492-506) used 65 airport service quality themes to test the preliminary model in Figure 2 by testing 12 hypotheses. Each airport service quality theme was paired with a seven-point scale ranging from 1 = strongly disagree to 7 = strongly agree. To test the hypotheses, data were analyzed using both exploratory and confirmatory factor analysis (CFA). The reduced factor solution for each scale was then subjected to a varimax rotation seeking more easily interpretable results. Churchill (1979: 64-73) selected only items that loaded on a single factor for the final version of the scale, on which all items registering less than 0.6 were removed. Items were reduced and sub-dimensions were modified for each scale in an iterative process (see Figure 2).



Source: Fodness and Murray (2007: 502)

**Figure 2** Final Model of Airport Service Quality

## **Airport Service Quality**

Airport service quality literature and research is distinguished from the mainstream service quality perspective (e.g. the gap theory model) by its focus on quality at the attribute level. Researchers attempting to measure airport service quality typically proceed from a list of objective indicators of service that are developed from discussions with airport stakeholders rather than passengers, including airport and airline operators, consultants, regulators and travel industry managers.

Piyajitmetta (2003: A) studied the factors affecting Thai passengers' total satisfaction of service with Thai Airways International in Bangkok Metropolitan area: a case study of the Bangkok – Hong Kong – Bangkok sector. The researcher collected the data from 385 Thai passengers who have utilized and consumed the services of Thai Airways International on the Bangkok – Hong Kong – Bangkok route. The research found three factors that affected Thai passengers' total satisfaction with service on Thai Airways International in Bangkok Metropolitan area for the Bangkok – Hong Kong – Bangkok Sector. First was "satisfaction with services at the ticketing counter." This consisted of four aspects beginning with: kindness of staff, politeness of staff, check-in staff, and

satisfaction with purchasing Thai Airways International Public Company Limited tickets because of their good service. Second was "service on board," consisting of: satisfaction with in-flight convenience of equipment, entertainment, and in-flight foods/beverages service by aircrews. And the last factor was "other services," consisting of passengers' satisfaction with purchasing the high price ticket because of good service, aircraft safety, because of new aircraft, and on time flight schedule.

Lubbe, Douglas, and Zameblis (2011: 224-227) applied the concept of expectations underlying Fodness and Murray's (2007: 492-506) selection of methodology for measuring service quality with its focus on passenger expectations in service quality. This research investigated passengers' perceptions of airport service quality at O.R. Tambo International Airport, South Africa. The study showed that the importance of service quality measurement and management at airports was seen as important, but for airport service strategies to yield the desired results, passengers themselves need to be the ones to define and evaluate service. Significant differences also occur in the perceptions of frequent and infrequent travellers.



## Methodology

### Population and Sample Size

The population consisted of all the passengers both Thai and foreigners, who passed through Suvarnabhumi International Airport whether departing, arriving, or transiting during the month of January 2011. The researcher used the convenience sampling method to collect the data. The sample size was 500 passengers (Thai and foreigners).

### Instruments

A self-administered questionnaire was developed and used as the data collection instrument consisting of a five-point Likert scale. The questions asked reflected Fodness and Murray's multi-dimensional scale designed to assess passengers' perception satisfaction and of airport service quality at Suvarnabhumi International Airport, Thailand. The questionnaires had 2 parts: 1) the satisfaction of airport service quality and 2) a demographic profile.

The first part of the questionnaire assessing the respondents' perception of satisfaction of airport service quality attributes consisted of 22 items. This part also included overall satisfaction. All of the statements were rated on a five-point Likert scale, ranging from 1 = very unsatisfied, 2 = unsatisfied, 3 = neutral, 4 = satisfied, and

5 = very satisfied. The second part of the questionnaire asked about the demographic profile of respondents.

### Reliability and Validity of Airport Service Quality

Fodness and Murray (2007: 492-506) stated that the alpha for the global construct was estimated at 0.85, and for the second-order constructs at 0.79 (Function), 0.74 (Interaction), and 0.80 (Diversion). Cronbach's alpha was computed for subdimensions and the values ranged from 0.61 to 0.81. The results also showed all possible pairs of the dimensions and found values ranging from 0.75 to 0.98. However, all of the items loaded on the factors higher than 0.6 (Churchill, 1979: 64-73) to which they were assigned, which can be considered a test of convergent validity of the scale. According to Nunnally (1967: 226), coefficients greater than or equal to 0.50 are generally acceptable and are a good indication of construct reliability.

### Data Collection

This research used a self-administered questionnaire data collection process to ask passengers in the process of departing, arriving, or transiting Suvarnabhumi International Airport. The respondents completed the questionnaire in two parts: 1) Passengers' satisfaction perception of

airport service quality and 2) Demographic Profile. The respondents were asked to respond to each statement on a five-point Likert scale.

### **Data Analysis**

In order to achieve the stated objectives and to test the hypotheses, various kinds of statistical techniques were employed. These techniques included basic descriptive, factor analysis, multiple regressions analysis, one-way analysis of variance (ANOVA), and independent sample t-test. Data were entered into the Statistical Package for Social Sciences Windows Version 11.0 (SPSS) program to analyze the findings.

### **Results**

A total of 500 questionnaires were distributed and returned completed and usable. The respondents consisted of 249 Thai passengers (49.8%) and 251 foreign passengers (50.2%). Respondents were distributed as follows: 183 from Thailand (36.6%), 112 from Europe (22.4%), 42 from Japan (8.4%), 34 from China (6.8%), 30 from North America (6.0%), 28 from South America (5.6%), 26 from other Asian countries (5.2%), 25 from other countries (5.0%), 14 from Australia/New Zealand (2.8%), and 6 from Africa (1.2%). Respondents purposes for travelling included 150 (30.0%) for vacation/pleasure, 113 (22.6%) for work,

94 (18.8%) for visiting friends/relatives, 58 (11.6%) for education, 56 (11.2%) for business/professional, and 29 respondents (5.8%) for other purposes. The reasons for being at Suvarnabhumi International Airport included 265 (53%) arrivals, 198 (39.6%) departures and 37 (7.4%) were in transit. The number of times respondents used Suvarnabhumi International Airport for travel in the last 12 months included: 153 respondents (30.6%) twice, 86 respondents (17.2%) 3 times, 81 respondents (16.2%) more than 5 times, only once (14.8%), 58 respondents (11.6%) 5 times, and 48 respondents (9.6%) 4 times.

### **Factor Analysis**

Following analysis of the airport service quality variables of satisfaction data with principal component analysis (factor analysis) to delete the intercorrelations among the dimensions and results, three factors emerged with 22 variables (Figure 3). The first factor was labeled "Environment Service Provider," and consisted of nine variables, explaining 28.723% of the variance in the data and eigenvalue of 6.319. The second factor was labeled "Personnel and Passengers' Relationship," and consisted of eight variables explaining 9.086% of the variance in the data eigenvalue of 1.999. The third factor was labeled "Servicescape," and consisted of five variables and explaining

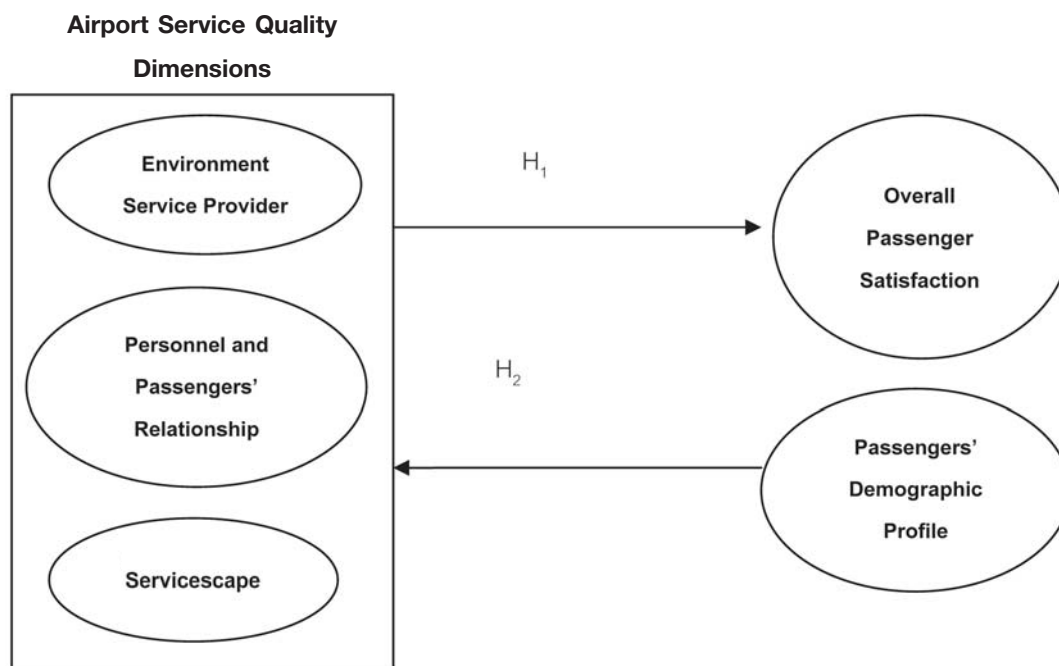


Figure 3 Conceptual Model of Airport Service Quality

a total variance of 7.670% with an eigenvalue of 1.687 (Table 2).

### Results of Hypotheses Testing

H<sub>1</sub>: Passengers' satisfaction perceptions of the airport service quality have a positive influence on overall passengers satisfaction.

The result of Hypothesis 1 indicated that the airport service quality factors had a positive influence on overall passengers satisfaction. The results of the regression

model indicated that it was statistically significant ( $F(3, 496) = 65.624, p = .000$ ). The coefficient of determination ( $R^2$ ) of 0.284 showed that 28% of the overall passengers satisfaction was explained by the three factors of airport service quality. All of the three underlying factors: 1) Environment Service Provider, 2) Personnel and Passengers' Relationship, and 3) Servicescape appeared to be significant independent variables that influence overall passengers satisfaction. Therefore,

**Table 2** Factor Analysis of Satisfaction of Airport Service Quality

Service Quality Attributes	Factor 1 Environment Service Provider	Factor 2 Personnel and Passengers' Relationship	Factor 3 Servicescape	Communalities
<b>Factor 1: Environment Service Provider</b>				
National chain restaurants are available at airports.	0.710			0.536
Nationally known retail outlets are available at airports.	0.694			0.532
An airport has current décor.	0.672			0.464
An airport display art.	0.651			0.433
An airport's decor matches the local art culture of the city.	0.634			0.414
An airport has business centers.	0.545			0.377
A variety of specialty retail stores sell local culture products.	0.522			0.395
Local cuisines are available at airport.	0.481			0.370
An airport should have quiet areas in which passengers can nap or to do business.	0.448			0.311
<b>Factor 2: Personnel and Passengers' Relationship</b>				
It upsets you when you have to wait in line more than ten minutes during the check-in process.		0.745		0.581
It upsets you when you have to wait more than ten minutes to receive your baggage after flight.		0.734		0.556
Employees at an airport do not busy to respond to your request promptly.		0.675		0.495
You can exit the airplane within ten minutes of landing.		0.657		0.478
Your complaints are responded to immediately at the airport.		0.540		0.388
Conference facilities are available to you at an airport so that you can conduct meetings.		0.457		0.369
Employees at an airport are available to offer you individualized attention.		0.453		0.351
Transferring or meeting a connecting flight is easily for you.		0.426		0.368
<b>Factor 3: Servicescape</b>				
An airport's external signs clearly direct me to airport services.			0.800	0.649
Internal signs throughout an airport give me clear directing.			0.789	0.659
An airport's physical layout makes it easy for you to find what you need.			0.692	0.529
Airport' has a variety of ground transportation options to the nearest city.			0.603	0.434
Baggage carts are conveniently located.			0.440	0.317
Eiigenvalue	6.319	1.999	1.687	
Variance Explained (%)	28.273	9.086	7.67	
Cumulative Variance (%)	28.723	37.808	45.478	
Cronbach's alpha	0.817	0.801	0.758	

Note: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA): 0.873 Bartlett's Test of Sphericity: 3444.000,  $p = 0.000$

Hypothesis 1 “Passengers’ satisfaction perception of the airport service quality has a positive influence on overall passengers satisfaction” was supported.

H<sub>2</sub>: There is a significant difference in airport service quality factors between types of passengers (Thai and Foreigner).

The results of the ANOVA revealed that there was a statistically significant difference in airport service quality Factor 2 – Personnel and Passengers’ Relationship ( $F(1, 498) = 12.024, p = .001$ ) between Thai and Foreigners.

### Independent Sample t Test

The independent-sample t test analysis indicated that the foreigner passengers satisfaction of airport service quality had a higher mean than Thai passengers. There are ten airport service quality attributes significant relative to Thai and foreign passengers at Suvarnabhumi International Airport:

1. Availability of a variety of ground transportation options to the nearest city.
2. Ease of transferring or making a connecting flight.
3. More than a ten-minute wait to receive your baggage after a flight is upsetting.
4. Waiting in line for more than ten minutes during the check-in process is

upsetting.

5. Exit from the airplane within ten minutes of landing.
6. Individualized attention is available from employees at an airport.
7. Conference facilities are available to you at an airport so that you can conduct meetings.
8. Employees at an airport do not busy to respond to your request promptly.
9. The local cuisines are available at the airport.
10. A variety of specialty retail stores sell the local culture products at the airport.

### Managerial Implication

Understanding the relationship between airport service quality and management is important. However, it is perhaps more useful managerially to identify specific variables of airport service quality, most of which relate to the passengers, so appropriate intervention strategies can be formulated. This study has clear implications for service quality measurement and management at airports. The most obvious is that in order for airport service quality strategies and tactics to yield the desired results, service quality of airports must be defined by and measured from passengers themselves. This study offers directions for managers who seek to use service quality as a critical component of their airport’s

competitive strategy. Customer-driven service quality enhancements affect not only passengers' perceptions, but also the overall attractiveness of the airport relative to its competitors. Thus, allocating an appropriate amount of resources to the key factors of airport service quality can increase the likelihood of being perceived by a passenger as the best choice, relative to the alternatives available.

### Implications for Future Research

This study holds implications for further research in the services, airport service quality and passenger satisfaction domains. Significant contributions could result from additional study of the relationships between service quality, servicescape, service provider, and service experience. Based on the results of this research, other researchers should develop a formal survey instrument to be administered to various airport stakeholders at large, medium, and small hub airports. The satisfaction of passengers' perceptions of airport service quality will be used to determine the relative importance of the identified airport quality factors to each group. For further study, there are two critical investigations needed: first, the relationships between airport service quality

and other important airport performance measures. Second, the relative importance of service quality in the passengers' airport choice is currently the subject of speculation requiring empirical inquiry and specification.

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