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Identifying Airport Service Quality Driving Factors: A Case of an International Airport in Bangkok

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Abstract

Thai airports need to look at their service quality and passenger satisfaction to become an aviation hub of Asia. Managing Airport Service Quality–ASQ is not an easy task especially when a large number of travelers from budget airlines (Low-Cost Carrier or LCC) outpace the increment and renewal of airport facilities. Quite often, airports have to provide services for a large number of passengers on a limited budget. This study investigated a case of an international airport in Bangkok serving annually around 38 million passengers--mainly LCC. The management of the airport seeks to identify factors that yield passengers' overall satisfaction of the airport. The research objectives were to (1) uncover service quality rated by passengers of the studied airport, (2) identify factors that yield overall satisfaction of passengers, (3) uncover other factors that might help improve the service quality rating, and (4) propose evaluation guidelines for the airport to improve its service quality.

A self-administration survey was conducted with 341 domestic and international passengers using quota sampling in the fourth quarter of 2018. The survey collected data on service items in five categories: (1) Venue and Ambiance, (2) Effectiveness of the Accessibility and Directions Guiding, (3) Efficiency of Process Activities, (4) Discretionary Activities, and (5) Quality of Interaction with Service Personnel. The results showed that all service components are significantly and positively correlated with overall passengers' satisfaction with the airport. It was noted that the most important service component was "venue and ambiance," while the least correlated service component "efficiency of the process activities." In addition, ten interviewed Thai regular passengers, who rated the service quality low, revealed their undifferentiated expectation of services of airports serving LCC and those serving full-service airlines. Mood was also found to be a contributing factor of low rating of service quality. From the obtained findings, the researchers recommend evaluation guidelines for the airport to improve its service quality.

Keywords: *Airport service quality, driving factors, international airport, Bangkok*

1. Introduction

The Thai government has been promoting the country to become Asia-Pacific's air transportation hub. The present administration has announced such a policy to be one of the prioritized agenda in its twenty-year national strategy and ordered a concrete orchestrations of efforts and resource relocations among various government authorities, private sectors and international organizations (Department of Public Relations, 2017). The strategy is tightly linked to the tourism strategy for sustainable development in that airports are the first point of destination impression generation and the link between origin destinations of foreign travelers (Manulang, Bendesa et al., 2015; Office of the Prime Minister, 2018). Strengthening airport competitiveness is, therefore, of high priority for Thailand's socio-economic development.

Currently, Bangkok, the capital city of Thailand has two airports. The newer and bigger one serves mainly full-service airlines and is located in the east of Bangkok while the smaller and older one is located in the north of Bangkok and mainly serves low-cost carriers – LLC. While the adoption of LLC among both international and domestic travelers is on the rise, the second airport is operated in various limitations ranging from space, venue, and operational constraints. The situation is coupled with increasing number and quality of facilities of airports in competing destinations. Sustenance and improvement of passenger satisfaction is, consequently, the key not only to the airports but also the country as a tourism destination.

This study aimed to (1) uncover service quality rated by passengers of the studied airport, (2) identify factors that yield overall satisfaction of passengers, (3) uncover other factors that might help improve the service quality rating, and (4) propose evaluation guidelines for the airport to improve its service quality.

2. Airport Industry and the Studied Airport

Traditionally, airports were regarded just as a transportation terminal and a public space where passengers had to follow the decisions of airlines in choosing particular airports in their routes (Fodness & Murray, 2007). Advancement of transportation technology, higher relative purchasing power of the general public, a more overt stance of previously socialist countries and liberalization of air transportation are among uncountable factors contributing to higher demand of air transportation and, consequently, a larger and more sophisticated airports (Zeithaml et al., 2006; Fodness & Murray, 2007; Bezerra & Gomes, 2016).

Liberalization of air transportation, in particular, has made the competition among airports intense and the key success factors of airports are now efficiency of the facility usage and service quality (Fodness & Murray, 2007; Lupo, 2015; Bezerra & Gomes, 2016). Despite the fact that passengers choose their departing or arriving airports from airlines' choice and location, it is believed that customers' satisfaction with airport service quality is an intervening factor of how airlines choose particular airports into their routes (Fodness & Murray, 2007). Airport market demand is fluctuating on the air transportation demand which is, by nature, cyclical on economic conditions (Fodness & Murray, 2007). Intense competition among airports force airport managements to promote their service fees to airlines, thus causing a decline in airports' revenue. In such a light, airports actively seek measures to maximize non-aeronautical revenues, such as from retail, food and beverage, and other services that passengers consume while waiting to board (Fodness & Murray, 2007; Bezerra & Gomes, 2016; Pandey, 2016).

There are two key success factors of airports: efficiency and service quality—both tending to be in conflict. When airports would like to increase their efficiency, they normally take in more flights and shorten the turnaround times. As a result, service quality rendered to customers often decline. Service quality has become harder to sustain and improve airports that serve LLC, yet maintaining the airline business model solely
driven by efficiency (Channoi et al., 2016; Bezerra & Gomes, 2016). It can be argued that management of service quality for airports serving LLC is both difficult and complex in the operational environment and business models. The case is even more complicated for airports that are constrained by space, regulations, and operations.

In this research, the studied airport is an international airport in Bangkok located in the northern strip of the city. The airport used to be the main airport in 1914-2006. The airport was closed for over a year and reopened in 2007 to accommodate the rising demand of LLC connecting Bangkok to 49 domestic and international destinations. Each year, it serves more than 38 million passengers.

There are currently two terminals: Terminal one is for international flights and Terminal two is for domestic flights. Terminal two for domestic flights has newer and better maintained facilities. The traffic for international flights at Terminal one is highly congested with limited waiting areas and toilets. From the researchers' observation, service quality rating for international flights could be lower than that for domestic flights.

As known, the airport itself faces several spatial limitations by being flanked by the Air Force, and Vipavadi Rangsit Road—thus affecting space for parking and in the terminal. Its tight schedules and high traffic demands make it difficult for renovation work and expansion. The good point about the airport is its location near the city center but with its rather older facilities and not updated design. In this regard, customers' management has become a big challenge in providing quality services.

3. Airport Services and Service Quality

Airport space can be divided functionally into three areas, namely access interface, processing areas and flight interface (Pandey, 2016). *Access interface* refers to the areas where passengers access to and depart from the airport. *Processing areas* include all areas where passengers are processed ranging from ticketing, check-in, security inspection and boarding. *Flight interface* refers to the interaction between passengers and airlines which are normally taken place after passengers boarded the aircraft. The last area—flight interface--is beyond the scope of this study.

Activity wise, airport services can be divided into two major types, namely process activities and discretionary activities (Bezerra & Gomes, 2016; Pandey, 2016; Cholkongka, 2017). *Process activities* include all services required for passengers to board the aircraft which tend to be similar across countries and are mostly demanded by law. They range from check-in to security screening and boarding. Process activities are normally evaluated on their efficiency, waiting time and courtesy of staff. *Discretionary activities* refer to services that passengers can voluntarily consume while waiting to board the aircraft. They are usually evaluated on the variety, and leisure of alternatives (Arif et al., 2013; Bezerra & Gomes, 2016; Pandey, 2016).

As the main motivation of air passengers is a smooth transfer from land to air transportation; therefore, the importance of process activities should outweigh the importance of discretionary activities. While *process activities* deal with how effective airport services, including the quality of encounters with airport and airline personnel, are provided in the airport terminals, *discretionary activities* are usually assessed on how well they can make the waiting time more productive and well-maintained (Fodness & Murray, 2007).

Airport services in this study were therefore grouped into five categories, namely Venue and Ambiance, Effectiveness of Accessibility and Direction Guiding, Efficiency of Process Activities, Discretionary Activities, and Quality of Interaction with Service Personnel.

Considering the motivation of service for air passengers, efficiency of process activities and quality of interactions should constitute the critical determinants for passengers' overall satisfaction with their experience in the studied airport.

The study had three hypotheses:

H1: Domestic flight passengers rate service quality of the studied airport higher than international flight passengers.

H2: Efficiency of Process Activities is the most critical airport service for overall passenger satisfaction.

H3: Quality of Interaction with Service Personnel is the most critical airport service for overall passenger satisfaction.

4. Methodology

A survey questionnaire was designed after the criteria of the survey questionnaire of Airport Service Quality Survey used by International Airport Council. It contained 43 items asking for flight information, frequency of flight taken, purpose of flights, service quality rating, relative importance ranking, and passengers' in-airport behaviors. The questionnaire item list is given in Appendix A.

Composite variables were computed with reliability criteria of Cronbach's Alpha of 0.70 and above. The composite variables with normal score distribution (z-score is lower than 3.29) were further processed statistically. Variables not meeting normal score distribution criteria (z-score higher than 3.29) were processed with non-parametric statistics.

Self-administered survey was conducted with 341respondents recruited by stratified random sampling where flights were selected by airport's management in English, Thai, and Chinese.

The variables using interval scales to measure, due to no absolute zero, were scored as follows:

1.00-1.80 are categorized in "improvement needed" zone.
1.81-2.60 are categorized in "poor" zone.
2.61-3.40 are considered "fair."
3.41-4.20 are considered good.
4.21-5.00 are considered excellent.

To find the service component contributing most to the overall satisfaction, correlations between composite variables and overall satisfaction were computed. Mean scores of satisfactions toward different service components were also compared between travelers of different profiles using analysis of variance (Aron & Aron, 1997; Manning & Munro, 2007; Neuman, 2011).

Those variables showing significant difference between travelers of different profiles or behaviors were derived from qualitative data of semi-structured in-depth interviews with volunteering passengers. These respondents provided comprehensive views on their experience with airport service quality of the studied airport.

5. Findings

Out of 341 respondents, 196 (57.5%) are female and 144 (42.4 %) are male. One of them (0.3 %) did not provide the information. The majority of respondents were between 26-54 years (84.7 %) as shown in Appendix B.

As for nationality of the total 341 passengers participating in the study, the majority of the respondents were Thai (255 or 74.78%), and Chinese (39 or 11.43%). Respondents mainly traveled for leisure (165 or 48.38 %). As for class of service, 316 respondents (or 92.66%) traveled on economy class and 284 respondents (83.28 %) were 1-6 times on flight within the past six months. Most respondents traveled within the country (212 or 62.17%), followed by developed countries (49 or 14.36 %) and CLMV sub-region (34 or 9.97%).

Five composite variables were computed according to the priori theory, namely Venue and Ambiance, Effectiveness of Accessibility and Direction Guiding, Efficiency of Process Activities, Discretionary Activities, and Quality of Interaction with Service Personnel. The first composite variable was computed initially from 6 items. One item "Quality of Internet Signal" was excluded from the composite variable due to higher reliability. The composite variable "Venue and Ambiance" was calculated by averaging the score of the five question items as shown in Table 1. Reliability of the composite variables by Cronbach's Alpha was 0.893, > 0.70) and validity by item-to-total correlation higher than 0.5) (Manning & Munro, 2007; Morgan et al., 2013). According to Tabachnick & Fidell (1996) and Manning & Munro (2007), the score of the variable is normally distributed at z-score = 1.688, < 3.29 (critical value for sample size larger than 300) The composite variables were therefore ready for statistical processing.

Table 1: Composite Variable "Venue and Ambiance"

Component Variables	**Mean**	**Standard Deviation**	**Z-Score**	**Item -to-Total Correlation**
Adequacy of Toilets	3.565	1.073	2.219	0.724
Cleanliness of Toilets	3.542	1.023	2.876	0.721
Comfort of Waiting Areas and Passenger Gates	3.679	0.952	2.267	0.752
Cleanliness of Passenger Terminals	3.870	0.792	0.192	0.786
Overall Ambiance of the Airport	3.769	0.792	0.027	0.702
Cronbach's Alpha 0.893	Composite Variable Mean		3.704	
Standard Deviation 0.754	Z-score		1.688	

Table 1 reports that the studied airport's venue and ambiance are good (Mean = 3.704, S.D. = 0.754). Despite scores of all component variables are considered in the "good" zone, adequacy and cleanliness of toilet facilities are rated the lowest.

The second component of airport service quality is "Effectiveness of Accessibility and Direction Guiding." The service includes passengers' experience with how they get to and from the airport, how convenient it is for them to find directions and information in the airport. The composite variable was computed by averaging the scores of 8 items of the survey questionnaire as shown in Table 2.

Table 2: Composite Variable "Effectiveness of Accessibility and Direction Guiding"

Component Variables	**Mean**	**Standard Deviation**	**Z-Score**	**Item -to-Total Correlation**
Ground Transportation from/to Airport	3.552	0.845	1.592	0.669
Parking Facilities	3.081	0.982	0.082	0.653
Parking Fee	3.062	0.962	1.016	0.708
Adequacy of Trolley	3.661	0.829	0.826	0.625
Ease of Finding Way in the Airport	3.770	0.863	1.337	0.663
Ease of Finding Flight Information	3.874	0.830	1.690	0.565
Walking Distance	3.644	0.860	0.707	0.647
Ease of Connecting Flight	3.649	0.796	1.244	0.727
Cronbach's Alpha 0.884	Composite Variable Mean		3.532	
Standard Deviation 0.648	Z-score		1.059	

Table 2 shows the respondents' opinion on *accessibility and direction guiding* as "good," except the components related to parking quality and financial cost as "fair." The finding should alarm the management to pay attention to the parking facilities and its service fees. The composite variable was both reliable (Cronbach's Alpha = 0.884 > 0.70) and valid (item-to-total correlations > 0.50) (Neuman, 2011).

As seen in Table 2, the passengers found the studied airport "good" in accessibility and direction guiding (Mean = 3.532, S.D. = 0.648) and the score of the composite variable was normally distributed at z-score = 1.059, < 3.29 (critical value for sample size larger than 300). The statistics indicate readiness for further statistical processing.

The third component of Airport Service Quality is "*efficiency of core airport service processes*," namely check-in, passport inspection, security screening, baggage claims and custom inspection. The composite variable was computed by averaging score of 9 different items. All component service items were found "good" by the respondents. The composite variable was reliable (Cronbach's Alpha = 0.918, > 0.70) and valid (item-to-total correlation > 0.50). The mean score of core service efficiency composite variable is 3.738 (S.D. = 0.689) meaning that the respondents found the core service efficient. The score of this variable was

normally distributed at z-score = 0.50 < 3.29 (critical value for sample size larger than 300), signifying readiness of the variable for further statistical processing (Manning & Munro, 2007; Neuman, 2011; Morgan et al., 2013). Table 3 presents the details of the composite variable "Efficiency of Core Processes."

Table 3: Composite Variable "Efficiency of Core Processes"

Component Variables		Mean	Standard Deviation	Z-Score	Item -to-Total Correlation
Check-in Waiting Time		3.580	0.985	1.930	0.576
Efficiency of Check-in Staff		3.819	0.898	1.259	0.695
Passport Inspection Waiting Time		3.794	0.912	2.462	0.716
Meticulosity of Security Screening		3.798	0.919	1.968	0.732
Security Screening Time		3.824	0.868	1.241	0.771
Confidence in Security Screening		3.895	0.877	2.044	0.763
Arrival Passport Inspection		3.714	0.823	0.715	0.738
Baggage Claim		3.609	.0839	2.133	0.720
Custom Inspection		3.609	3.849	1.797	0.695
Cronbach's Alpha	0.918	Composite Variable Mean		3.738	
Standard Deviation	0.689	Z-score		0.50	

The fourth component of airport service quality is *discretionary activities* or activities that passengers can voluntarily engage themselves in while waiting to board the flight. Six question items were in the composite variable "discretionary activities" as illustrated in Table 4. It can be seen that while the respondents found quality and variety of catering (Mean = 3.649, S.D. = 0.958), bank machines (Mean = 3.703, S.D, = 0.899) and tax-free shopping services (Mean = 3.525, S.D. = 0.939) as "good." They rated internet service only fair (Mean = 3.256, S.D. = 1.078).

As for price of discretionary activities, the respondents rated the price of catering (Mean = 3.174, S.D. = 1.052) and tax-free shopping services (Mean = 3.198, S.D. = 1.028) as "fairly good," revealing customers' viewpoint on prices of the questioned goods or services as too high (Maholtra, 1999).

The composite variable was by averaging the scores of the six component variables. The composite variable was both reliable (Cronbach's Alpha = 0.868, > 0.70) and valid (item to total correlations > 0.50) (Manning & Munro, 2007; Morgan et al., 2013). The score of this composite variable was normally distributed at z-score = 0.859 < 3.29 (critical value for sample larger than 300). From Table 4, it can be seen that the respondents rated the quality of "discretionary activities" at the studied airport as "very good" (Mean = 3.417,

S.D. = 0.771); however, they revealed their "less-than-good" experience with internet access and prices of discretionary activities.

Table 4: Composite Variable "Discretionary Activities"

Component Variables	Mean	Standard Deviation	Z-Score	Item -to-Total Correlation
Quality and Variety of Catering Facilities	3.649	0.958	1.756	0.591
Food Cost	3.174	1.052	0.737	0.669
Sufficiency of Bank and ATM Machines	3.703	0.899	1.551	0.675
Tax Free Shopping Facilities and Assortment	3.525	0.939	1.571	0.701
Price of Tax-Free Shopping	3.198	1.028	0.820	0.777
Accessibility and Quality of Wifi Internet	3.256	1.078	1.571	0.594
Cronbach's Alpha 0.868	Composite Variable Mean		3.417	
Standard Deviation 0.771	Z-score		0.859	

The last component of airport service in this study dealt with the quality of interaction with service personnel and airline staff ranging from check-in or baggage drop process, immigration passport screening, security screening process, to airport attendants' help. The composite variable "interaction with service staff" was computed by averaging the scores of the four component variables. The composite variable was reliable (Cronbach's Alpha = 0.887, > 0.70) and valid (item-to-total correlations > 0.50) (Manning & Munro, 2007; Morgan et al., 2013). The score of the composite variable was normally distributed (at z-score = 2.393 < 3.29 (for sample larger than 300) (Manning & Munro, 2007). Table 5 shows the respondents rating service staff at the studied airport as "very good" (Mean = 3.875, S.D. = 0.783).

Table 5: The Composite Variable "Interaction with Service Staff"

Component Variables		Mean	Standard Deviation	Z-Score	Item -to-Total Correlation
Attentiveness and Helpfulness of Check-in Staff		3.856	0.918	3.091	0.779
Attentiveness and Helpfulness of Passport Controllers		3.887	0.857	2.724	0.797
Attentiveness and Helpfulness of Security Screeners		3.826	0.918	1.067	0.768
Attentiveness and Helpfulness of Airport Staff		3.869	0.958	3.189	0.678
Cronbach's Alpha	0.887	Composite Variable Mean		3.875	
Standard Deviation	0.783	Z-score		2.393	

In identifying the contribution of the five categories of airport services at the studied airport to passengers' overall satisfaction, the researchers had a multiple linear regression performed between the service categories as an independent variable and passengers' overall satisfaction as a dependent variable.

Table 6: Correlation between Airport Service Quality Dimensions and Multiple Linear Regression with Overall Satisfaction

Variables / Pearson's Correlation (Sig)	Interaction with Service Staff	Discretionary Activities	Efficiency of Core Activities	Accessibility and Direction Guiding	Venue and Ambiance
Overall Satisfaction	0.550 (0.000)	0.490 (0.000)	0.608 (0.000)	0.585 (0.000)	0.654 (0.000)
Venue and Ambiance	0.646 (0.000)	0.580 (0.000)	0.689 (0.000)	0.678 (0.000)	
Accessibility and Direction Guiding	0.750 (0.000)	0.793 (0.000)	0.786 (0.000)		
Efficiency of Core Activities	0.875 (0.000)	0.657 (0.000)			
Discretionary Activities	0.657(0.000)	R = 0.694	Adjusted R^2 = 0.482	F (5,130) = 24.188 (sig. =0.000)	Constant = 1.004
Independent Variables	**B**	**Beta**		**T-test**	**Sig.**
Venue and Ambiance	0.401	0.413		4.486	0.000
Accessibility and Direction Guiding	0.141	0.124		1.308	0.301
Efficiency of Core Process	0.281	0.253		1.717	0.088
Discretionary Activities	0.022	0.024		0.252	0.802
Interaction with Service Staff	-0.047	-0.049		-0.356	0.723

The five composite variables representing different categories of airport service quality were tested with multicollinearity problem using Pearson's correlation coefficient. Table 6 points to each airport service dimension being significantly correlated to each other but not exceeding the critical value (0.90) (Manning & Munro, 2007). The results signified

that the five independent variables and the dependent variable were appropriate in multiple linear regression.

The multiple correlation coefficient (R = 0.694) was significant different from zero F (5,130) = 24.188, p < 0.05 and 48.2 percent of variance of overall satisfaction can be explained by five independent variables as a set (R = 0.694, Adjusted R^2 = 0.482). Only "Venue and Ambiance" (Beta = 0.414, T = 4.486, p < 0.05) was found to be significantly and uniquely contributed to the prediction of "overall satisfaction." Effectiveness of Accessibility and Direction Guiding, Efficiency of Core Service, Discretionary Activities and Interaction with Service Staff were not found to provide any significant contribution to passengers' overall satisfaction (T = 1.308, p > 0.05, T = 1.717, p> 0.05, T = 0.252, p > 0.05, T = -0.356, p > 0.05). The researchers put the equation of prediction produced by this analysis among the variables as follows;

Overall Satisfaction = 0.401 Venue and Ambiance + 0.141 Efficiency of Accessibility and Direction Guiding + 0.281 Efficiency of Core Service + 0.022 Discretionary Activities – 0.047 Interaction with Service Staff + 1.004

From multiple linear regression performed above, Hypothesis two (Efficiency of Process is the most critical airport service for overall passenger satisfaction) and Hypothesis three (Quality of Interaction with Service Personnel is the most critical airport service overall passenger satisfaction) were rejected.

To test Hypothesis One, one way analysis of variance was performed between overall satisfaction and terminals of the departure flights. While Terminal one was for international flights and Terminal two for domestic flights, the analysis of variance would show whether or not domestic passengers rate their satisfaction with airport service quality higher than international flight passengers.

Table 7: Analysis of Variance between International and Domestic Flight Passengers on Overall Satisfaction with International Airport

Service	Statistics	Overall Mean	International Flights	Domestic Flights	Remarks
Overall Satisfaction	$\bar{x}$	3.917	3.936	3.907	Levene Statistics = 2.941, df (1,337) = p > 0.05 One Way ANOVA: F (1,337) = 0.130, p = 0.719, >0.05

One-way analysis of variance indicates insignificant difference between international and domestic passengers' overall satisfaction with the studied airport's services. Levene's statistics serving as the test of homogeneity was found to be insignificant (Levene Statistics = 2.941, df (1,337) = p > 0.05) signifying that the data were appropriate for analysis of variance. However, the F statistics has shown insignificant differences between passengers taking international and domestic flights (ANOVA: F (1,337) = 0.130, p = 0.719, >0.05). Hypothesis One was therefore rejected.

However, the researchers took a further step to compare overall satisfaction of Thai and international passengers and have found significant differences between the two groups of respondents regardless of destinations and departure terminals.

Table 8: One-way Analysis of Variance between Thai and International Passengers on Overall Satisfaction

Service	Statistics	Overall Mean	Foreign Passengers	Thai Passengers	Remarks
Overall Satisfaction	$\bar{x}$	3.917	4.117	3.795	Levene Statistics = 2.381, df (1,325) = p > 0.05 One Way ANOVA: F (1,325) = 4.117, p = 0.000, <0.05

Table 8 reports that Thai and International Passengers were appropriate for one-way analysis of variance (Levene Statistics = 2.381, df (1,325) = p > 0.05); Thai passengers rated the quality of the airport services at the studied airport (Mean = 3.795) significantly lower than international passengers (Mean = 4.117) (One Way ANOVA: F (1,325) = 4.117, p = 0.000, <0.05). The finding triggered the interest of the researchers to look into lower satisfaction of Thai passengers.

The researchers decided to conduct semi-structured interviews with ten Thai passengers conveniently recruited during the survey of the subsequent quarter. The informants were asked (1) Was it convenient for them getting to the airport as compared to other airports in Thailand?, (2) Was it smooth for them getting through the processes in boarding the flight?, (3) Did the studied airport provide sufficient *discretionary facilities* for them while waiting to board the flight?, (4) Were the staff members pleasant and helpful?, and (5) Were the airport building and surrounding pleasant? Probing was occasionally done to get a deeper insight into the passengers' satisfaction (Patton, 2002; Hennink et al., 2011).

Among the ten informants, one of them found the airport's service quality "fair" (3 of 5), 6 of them found the airport "poor" (2 of 5) and 3 of them found the airport "very poor" (1 of 5). It was noted that Thai passengers found that getting to the studied airport was problematic with limited public transportation (such as the sky train). They complained about poor taxi services and the use of taxi meter ignored by drivers. In addition, parking was problematic in terms adequacy and unreasonable fees. Worse still, they reported poor arrangement and hospitality shown by security officers at the departure and arrival ramps.

Here are eight excerpts from the interview data, expressing their discontent with:
Parking and taxi:

> "I used this airport when I was young and it is, if not worse, similarly difficult to get to this airport. I don't understand why other countries even those who started developing their countries later than us surpass us now. This airport should take Suvarnabhumi airport as their benchmark of quality, although it is difficult to get a *parking* at SVB, you can choose to get there by *taxi* and you have time dragging your baggage down. You can even get there by Airport Rail Link."

Traffic and taxi

> "My daughter always complained when she drops me off at this airport because there were *cars taxis and vans messily* dropping somebody off and security officers whistling to rush us to get off the car" "I used to take taxis too, they requested not to use the meters and the requested price is out of question I feel ripped off. I don't understand why we can't arrange it as nicely as Japanese airports I visited with my family."

The two excerpts above show the passengers' frustration over the studied airport regarding transportation access and services. Experienced passengers would expect quality facilities and services to access airports and airlines upon their arrival and departure (Gnoth, 1997; Lovelock et al., 2001; Chi & Qu, 2008).

Check-in process and security screening

> "The check-in ladies are nice and so are the identity control. What I find unacceptable is the *security screening.* I don't know what to screen. The officers do not smile and they even make fun of you when you do not know what not to bring on board. They act as if you know nothing and are from rural areas."

High price of food and merchandise

> "You have more and more *food choices and things to buy* here but *their prices are unacceptably high.* I know that the price of things at airports tend to be high, but this is something like 50% higher. See? Even the newspapers reported that food cost at Thai airports are much higher."

> "I don't get the idea of *charging the food exceptionally high* while you make money from ticket selling. We paid dearly for air tickets and we also have to pay dearly for food. Girl (she called herself aunt), my lunch today at this airport is worth a whole week market fee at home."

Interaction with service staff

> "Security screening officers are similar everywhere. They think that they have all the power to block you there or let you pass through your flight. I have seen worse than what I experienced today….*Anyway, you have to admit that people, in general, at Suvarnabhumi airport are much nicer and better trained*. They know how to approach you…." "…. that's not an excuse of being unprofessional [at an

> LCC-based airport]. They should know that their airport is older and *passengers are cramped in the hall, they should make sure that they receive good services*."
>
> "Normally, I am forgiving but security screening attendants are rude and look down on Thai passengers. I have observed, they only do this to Thais and Chinese."
>
> "Low cost or not [LCC-based airport] is not the question, *does low cost means rude and rough*?"

As shown in the excerpts, all interviewed passengers—regardless of the intensity of experience in air travel—expected good and reasonable services. Though they were asked whether they would consider the quality of services and facilities as pertinent to LCC, they responded with their expectation of reasonable, not poor, services provided by the airport under study. This was very clear with the passenger who commented "Low cost or not [LCC-based airport] is not the question, *does low cost means rude and rough*?"

It is true that LCC airport management might wish passengers not to compare the studied airport in Bangkok with the newer international airport in Samut Prakarn next to Bangkok, but that was not possible because certain facilities had to be of air terminal standard, as expressed by two interviewed passengers:

> "I feel stressed using this airport. Suvarnabhumi is not the best of course but *this airport is much worse. Toilets smelled and were crowded,* passenger halls are old and sometimes hot. *I don't know if the airport switch on all the air cons*… look at Malaysia, Vietnam or even many airports in China, they are better managed… after all, the airport should remember that it is one of the major airports of Thailand and is located in the capital city."
>
> "The airport is old is one thing but I have to sit on the floor while waiting to board as *passengers are flocked in the hall and it's hot.* I feel like almost fainted. There was no air to breathe… I have never felt the same at Suvarnabhumi or even in other countries."

From the interview data which correspond with the survey data reported in Tables 1-5, it seemed imperative for the management of the airport under study to take a prompt action to remedy the services urgent in priority, particularly transportation and taxi, high price of food and merchandise, cleanliness of toilets, and acceptable conditions of air conditioning and ventilation. Certainly, the management should have a systematic check-up and follow-up of upgraded services and facilities.

6. Discussion

As stated in the research objectives to uncover service quality rated by passengers of the studied airport and identify factors that yield overall satisfaction of passengers, the obtained findings pointed to process activities as not significantly contributing to the overall satisfaction of the airport service quality. The respondents to the survey tended to

be in favor of discretionary activities (Table 4) and interaction with service staff (Table 5). In particular, they were not satisfied with cleanliness of toilets (Table 1), parking quality and high price of merchandise and high service fees (Table 2), and rather high prices of discretionary activities and only "fair" internet service. In fact, no any type of activities (process or discretionary activities) or interaction with airport service staff determines the level of satisfaction with the airport (Fodness & Murray, 2007; Manulang et al., 2015; Bezerra & Gomes, 2016). The only factor that significantly contributed to overall satisfaction of the airport is *venue and ambiance* which, according to multiple linear regression, was found to be the only factor that uniquely contributed to airport service quality rating.

The findings confirm the variable and intangible natures of service products--in this study, an airport. Statistics showed that passengers evaluated the quality of their service rendered at the airport (overall satisfaction) based on how they are satisfied with the airport's physical evidence – venue and ambiance and that services are evaluated variedly on the evaluator's air travel experience. The airport under study should, therefore, seek to urgently upgrade its facilities and services to provide the quality proxy and shape good mood of passengers (Davidson et al., 2002; Zeithaml et al., 2006; Faullant et al., 2011).

It should be noted that the second most important aspect of airport service quality is *efficiency of the core service* which concerns mainly with check-in, passport control and security screening. The third most important service aspect is *accessibility and direction provision.* While *discretionary activities* often provide non-aeronautic revenue streams to the airport, they have very little impact on overall satisfaction (Bezerra & Gomes, 2016; Pandey, 2016).

As for the three hypotheses the researchers set to uncover other factors that might help improve the service quality rating, or propose evaluation guidelines for the airport to improve its service quality, all of them were rejected (Tables 6 and 7). To be specific, domestic flight passengers did not rate service quality of the studied airport higher than international flight passengers; efficiency of *process activities* was not the most critical airport service for overall passenger satisfaction; and neither quality of *interaction with service personnel* was the most critical airport service for overall passenger satisfaction. However, from the results of the study reported in Tables 1-5, the researchers could use those variables identified as problematic, like parking, cleanliness of toilets, high service fees and high prices of merchandise and discretionary activities, to propose them for evaluation items to improve the studied airport's service quality.

7. Conclusion

Airport service quality has become increasingly important as it strengthens competitiveness of the aviation, tourism and hospitality industry. Importantly, the two success factors, *efficiency and service quality*, tend to contradict. This study was conducted to identify the most critical service that yielded overall satisfaction of passengers of an international airport in Bangkok serving LCC (Low-Cost Carriers). The findings reveal that most services were rated in the range "good," and the one factor *venue and ambiance* increased overall satisfaction. International and domestic flights passengers did not significantly differ in their rating of airport service quality, but Thai and foreign passengers

differed in their rating. In-depth interviews were conducted with Thai passengers to find out the reasons for their rather low rating of service quality. It was found that Thai passengers had expectation of standard services and facilities provided by airports regardless of the LCC or a full international status. This is a critical basis for the airport management to operate in terms of passengers' overall satisfaction. Future studies on such a critical basis could be pursued with all stakeholders in the airport communities in order to obtain a so-called *satisfaction benchmark* for all parties concerned.

8. The Authors

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10. Appendix A: Questionnaire Items

Variable	Items	Measurement
Flight Information	1. Airlines	Open Ended Question
	2. Flight Dates and Times	Open Ended Questions
	3. Destination	Multiple Choice • Non-tourism domestic destinations • Domestic tourism destinations • ASEAN 5 International Destinations • CLMV International Destinations • Non-ASEAN Developed Countries • Non-ASEAN Developing Countries • China
	4. Class of Cabin Service	Multiple Choice • First Class • Business Class • Economy Class
Travel Motivation	5. Travel Motivation	Multiple Choice • Leisure • Business • Other
Familiarity with Air Transportation	6. Frequency of Air Travel within past 12 months	Multiple Choice • 1-2 times • 3-5 times • 6-10 times • 11-20 times • 21 times and more
Service Quality	How would rate the quality of the following services <u>Venue and Ambiance</u> 7. Internet Access 8. Adequacy of Toilets 9. Cleanliness of Toilets 10. Comfort of waiting areas and passenger gates 11. Cleanliness of passenger terminals 12. Overall ambiance of the airport <u>Effectiveness of Accessibility and Direction Guiding</u> 13. Ground Transportation from/ to Airport 14. Parking Facilities 15. Parking Fees 16. Adequacy of Trolley 17. Ease of finding way in the airport	5 Point Likert Type Scales (1 = Improvement Needed / 5 = Excellent)

Variable	Items	Measurement
	18. Flight information screens 19. In-terminal walking distance 20. Ease of making connecting flights Effectiveness of Process 21. Check-in time 22. Efficiency of Check-in staff 23. Passport inspection waiting time 24. Meticulosity of Security Screening 25. Security Screening Time 26. Confidence in Security Screening 27. Arrival Passport ID inspection 28. Baggage Claim 29. Custom Inspection Discretionary Activities 30. Quality of Restaurant 31. Availability of Bank Machines 32. Quality of Shopping Facilities Quality of Interaction with Service Personnel 33. Courtesy and Helpfulness of Check-in staff 34. Courtesy and Helpfulness of Passport Inspectors 35. Courtesy and Helpfulness of Security Screening Staff 36. Courtesy and Helpfulness of Airport Staff	
Travel Behavior	37. Choice of Ground Transportation to DMK	Multiple Choice • Private Car • Bus Shuttle • Taxi • Rail/ Subway • Rental Car • Other
	38. Arrival Time Prior to Flight Time	Multiple Choice • Less than 30 minutes • 30-45 minutes • 45-60 minutes • 1 Hour – 1 Hour 15 minutes • 1 Hour 15 minutes – 1 Hours 30 Minutes • 1 Hours 30 Mins – 2 Hours • More than 2 Hours
	39. Check in Mode	Multiple Choice • Self service desk • Check in desk • Internet Check in • Mobile Phone Check in • Bag Drop Off Desk • Other

Variable	Items	Measurement
Personal Profile	40. Nationality and Country of Residence	Open-ended Question
	41. Gender	Multiple Choice • Male • Female
	42. Age Group	Multiple Choice • 16-21 • 22-25 • 26-34 • 45-54 • 55-64 • 65-75 • 75 and Older
Additional Comments	43. Additional Comments	Open-ended Question

11. Appendix B: Respondents' Profile and Travel Behavior

Variables	Frequency	Percentile
Respondent Profiles		
Gender		
Female	196	57.5
Male	144	42.4
Missing	1	0.3
Total	340	99.7
Age Group		
26-34 Years Old	109	32
34-44 Years Old	86	25.2
45-54 Years Old	52	15.2
22-25 Years Old	42	12.3
55-64 Years Old	29	8.5
16-21 Years Old	15	4.4
65-75 Years Old	5	1.5
75 Years and Older	2	0.6
Missing	1	0.3
Total	340	99.7
Nationality Groups		
Thai	255	66
China	39	11.4
European	16	4.7
Asian (Developing Countries)	15	4.4
Asian (Developed Countries)	11	3.2
North American	9	2.6
Oceanian	5	1.5
British	4	1.2
Russian	4	1.2
Latin American	1	0.3
Missing	12	3.5
Total	329	96.5

Variables	Frequency	Percentile
Travel Behavior		
Purpose of Travel		
Leisure	165	48.4
Other	122	35.8
Business	54	15.8
Total	341	100
Class of Service		
Economy	316	92.7
Business	15	4.4
First	10	2.9
Total	341	100
Past Six Months Air Travel Frequency		
1-2 Times	113	33.1
3-5 Times	104	30.5
6-5 Times	67	19.6
11-20 Times	33	9.7
More than 21 Times	23	6.7
Missing	1	0.3
Total	341	99.7
Destinations		
Non-tourism Domestic	120	35.2
Domestic Tourism	92	27.0
International (Developed Countries)	49	14.4
International (CLMV)	34	10.0
International (ASEAN Five)	21	6.2
China	21	6.2
International (Developing Countries)	4	1.2
Total	341	100