STUDY ON THE USE OF PARKING SPACES AND SATISFACTION OF THAI PEOPLE USING DON MUEANG AIRPORT IN BANGKOK METROPOLIS, THAILAND

Wanrudee Suksanguan*

Abstract

This research aimed to study (1) the use of parking spaces in a 7-story car park at Don Mueang International Airport (DMK) and (2) passengers' satisfaction levels with parking spaces and shops in the passenger terminal. Questionnaires were used to interview the passengers, while check sheets were used for physical counting of the number of cars. Research hypotheses on the passengers' satisfaction included (1) passengers with different monthly incomes have different satisfaction levels and (2) passengers in different age groups have different satisfaction levels. ANOVA was used for hypothesis testing. The research results showed that (1) the average number of parked cars was 1,490.17 cars per day, while (2) the average parking time per car was 7.27 hours. (3) Turnover rate was 0.15 cars per parking lot per hour. (4) The average overall satisfaction level of DMK passengers with parking spaces and shops was at 3.64/5.00. Hypothesis testing revealed that there were differences in satisfaction with overall parking spaces and shops when considering income group and age group.

Keywords: Don Mueang Airport, Parking spaces, Satisfaction, Shop

1. INTRODUCTION

Don Mueang Airport (DMK), formerly known as Bangkok International Airport, is an airport in Thailand that serves Greater Bangkok. It was the first airport in the country, built in 1914, and operated continuously until 2006. In 2007, DMK was changed to serve domestic flights in Thailand only (www.airport-technology.com). Since 2012, it has returned to serving international low-cost airlines. An annual report in 2016 revealed statistics for take-offs and landings by commercial aircraft at DMK. The total number of flights in 2016

*Asst.Prof: Wanrudee Suksanguanobtains a Master of Business Administration from Kasetsart University Thailand. Currently she is working as a lecturer in Faculty of Accountancy of Rangsit University.

was up to 240,601 flights (per year), an increase of 12.01% from 2015 (Airports of Thailand Public Company Limited: www.aot.listedcompany.com). Moreover, the number of passengers at DMK rose by 21.34 percent from 2015, which was the highest increase compared to the six other major airports in the Kingdom (Suvarnabhumi Airport, Chiang Mai International Airport, Mae FahLuang Chiang Rai International Airport, Hat Yai International Airport, and Phuket International Airport). (www.airporthai.co.th). This is in line with the strategic location of Airports of Thailand Public Company Limited (AOT), which designated DMK as the point for serving low-cost airlines with fast service and no hassles. Therefore, the policy on developing service areas is a long-term working plan to which DMK attaches great importance, including commercial areas and car parks. The objectives of the plan are to meet the demand, accommodate upcoming growth and satisfy service users. At present, DMK has the capacity to accommodate 30 million passengers per year. In 2016, approximately 35.2 million passengers used services at DMK, which was higher than its capacity to accommodate them. As a result, car parking is the main problem. For example, traffic jams were caused by insufficient parking spaces, making people drive around and wait to pick up or drop passengers, sometimes taking longer than 1 hour. Based on such problems, DMK will undertake a project in 2018 to construct additional car park areas. The reason is because parking spaces are a part of the transport system that influences people's travel, including the selection of travel style, traffic density and travel expenses. Therefore, a proper system of arrangement for parking spaces, sufficient for the needs of all users, is essential in an area with heavy traffic and high demand for parking facilities.

DMK also plans to (1) expand the airport, which is expected to be completed in 2022 to accommodate 40 - 50 flights per hour and 40 million passengers per year. 2) Another plan includes the construction of an electric train or automatic passenger transport system, which will be free-of-charge and link parking lots with the passenger terminal and various other parts of the airport. It will be also connected to the rail system (red line) of the State Railway of Thailand. 3) Additionally, the Transport Minister has proposed an adjustment to the high-speed train project from Bangkok -Rayong to connect with 3 airports, namely Don Mueang Airport, Suvarnabhumi Airport and U-Tapao Airport, including linking the airport electric train and rail link. The projects mentioned above will facilitate the increased ability to handle arrivals / departures at DMK in the future. Therefore, it is expected that more people will use services or pass through, leading to an exponential expansion of related businesses.

Accordingly, the researcher was interested in studying the usage of parking spaces and satisfaction of DMK users to gain insight into the needs of service users in order to accommodate future growth.

2. RESEARCH OBJECTIVES

1. To study the average daily volume of parked cars in a 7-story car park at Don Mueang Airport.

2. To study the average time each car spent parked in a 7-story car park at Don Mueang Airport.

3. To study parking space occupancy (Turnover).

4. To study the satisfaction level of Don Mueang Airport users related to the parking spaces and shops in the passenger terminal.

3. CONCEPTUAL FRAMEWORK

Independent Variables	Dependent Variable
Personal factors - Gender - Age - Education level - Occupation - Average monthly income	Levels of satisfaction with service areas of Don Mueang Airport

Figure 1 Show Independent Variables and Dependent Variable

- Related theories and literature to research hypotheses

Service satisfaction refers to a customer's or service user's good feelings toward services that meet or exceed their needs in different aspects such as service staff, service processes, and service quality etc. (Michael R. Fitzgerald & Robert F. Durant ,1980: 586). Satisfaction levels depend on various factors such as livelihood and personal status, resulting in differences among groups of people. Differences among young people and elderly people, and factory workers and office workers, are caused by age and income differences (Christopher, Vandermerwe & Lewis, 1996, cited in Inthira Chantarat 2009: 30-33).

Studies by Phukphakdee, R. (2015), Manupeeraphan, W. (2009), Ketsawat, Y. and Sastranarakul, A. (2017), and Sakda , P. (2015) all showed that airline service users with different educational backgrounds, occupations and incomes had different satisfaction levels.

Accordingly, the researcher was interested in testing certain hypotheses about personal status and proving whether DMK users with different incomes and ages had different satisfaction levels toward service areas at DMK. Since DMK users are of diverse ages and have different economic statuses, it is essential to provide products and services that can meet the needs of every user group, which will lead to the highest rate of satisfaction.

RESEARCH HYPOTHESES

1. Passengers with different monthly incomes will have different satisfaction scores.

2. Passengers from different age groups will have different satisfaction scores.

4. LITERATURE REVIEW

4.1 Study on the Use of Parking Spaces

The researchers studied the use of parking in public places, e.g. temples, government buildings, shops, hotels, schools, tuition places, banks, hospitals and department stores. The parking duration, turnover rate and maximum parking occupancy index were studied. The research results are as follows: 1) Vehicles at temples had an average parking time of 234 minutes per car, Turnover Rate of 0.15 cars per space per hour and maximum parking occupancy of 89% parking; 2) Shops and services 211 minutes, 0.16 cars per space per hour and 86.63%; 3) Tuition places, 326 minutes, 0.06 car per space per hour and 82.03%; 4) Government buildings 188 minutes, 0.18 cars per space per hour and 79.39 %; 5) School 256 minutes 0.15 cars per space per hour and 78.88 %; 6) Hotel244

minutes 0.11 cars per space per hour and 76.51 %; 7) Bank106 minutes, 0.25 cars per space per hour and 50.83% (Budda,N. et al., 2013). 8) The hospital had a maximum parking occupancy of 111% for parking between 9.00 and 12.00 hrs (Rakwong, S.2014). 9) For department stores, it was found that the time with the most service users was 17.00 hrs - 17.59 hrs, with an average parking time of 98.94 minutes and an average turnover rate of 0.21 cars per space per hour (Sammana,W. 2014).

4.2 Study of Satisfaction with Airports

- Satisfaction of Ranong Airport users: The researcher studied 4 components of satisfaction found to be at a high level, including 1) personnel, service providers; 2) service processes; 3) quality of services and 4) facilities with the averages equaling 4.21, 4.14, 3.99 and 3.66, respectively. The comparison of users' satisfaction with 4 components revealed that service users with status differences, i.e. sex, education, occupation and income did not differ in terms of satisfaction with the four components (Lohakul,B. 2016).

- Satisfaction among Chinese passengers with Suvarnabhumi Airport: According to the findings, the average for Chinese passengers' satisfaction with 4 aspects including: 1) service of Suvarnabhumi Airport staff; 2) equipment and facilities; 3) safety; and 4) overall image was at a high level, i.e. 3.94. Hypothesis testing showed that sex did not affect satisfaction, while age affected satisfaction (Ketsawat,Y and Sastranarakul , A. 2017).

- Ground Service at Don Mueang Airport: A case study of service users from ASEAN countries. According to the results of studying 3 aspects of satisfaction including1) safety, 2) comfort and convenience, and3) information, satisfaction with all three aspects was at a high level. Overall satisfaction with all 3 aspects was at a high level, likewise with the average, i.e. 3.89 (Kueasuwan, B.2016).

- Passengers' satisfaction with services at Samui Airport: The research results revealed the averages for passengers' overall satisfaction with 4 aspects studied, including 1) staff, 2) location and environment, 3) security, and 4) facilities. It was found that passengers were highly satisfied with all 4 aspects as shown by averages of 3.88, 3.94, 3.95 and 3.92, respectively as well as 3.92 overall. Additionally, it was found that satisfaction towards Samui Airport services varied among passengers depending on gender, age, education and nationality (Sakda, P. 2015).

5. METHODOLOGY

This research intended to study the use of parking spaces at Don Mueang Airport and the satisfaction of Thai people using Don Mueang Airport. This quantitative research includes the use of a survey method, in-depth interviews and questionnaires as tools for data collection. The details of the study are as follows:

5.1 Population and Samples Consisting of 2 Groups

5.1.1. Car park users

5.1.2. Don Mueang Airport passenger terminal users

5.2 Research Scope

5.2.1 The researcher selected a 7-story car park to study the use of parking spaces

due to parking lots being for general people and easy entry into the passenger terminal. The study was conducted between 8 and 14 May, 2017.

5.2.2. The users of Don Mueang Airport passenger terminal were questioned from 15 to 31 March, 2017.

5.3 Determining the Sample Size

For Don Mueang Airport passenger terminal users, Yamane's Table (1993) was used at 95% reliability level, resulting in a sample size of 400 people. Accidental Sampling was applied because of the large population, limited time and questionnaire response participation. The researcher distributed questionnaires to the sample in the passenger terminal building because DMK passengers wait there to check in, meaning it was convenient for them to complete the questionnaires. The researcher distributed questionnaires for 7 days at various times.

5.4 Research Procedure

Step 1: In-depth interviews with 20 samples, namely passenger terminal users

-How do you get to DMK?
- Convenience in finding parking spaces
- Opinions about parking space service at DMK
- Opinions about shops at the passenger terminal building
- Opinions about the passenger terminal building and the services provided by airport staff

Step 2: Create the questionnaires
Step 3: Pretest the questionnaires
Step 4: Test the reliability of the questionnaires
Step 5: Use the questionnaires for research
Step 6: Study the volume of cars using Don Mueang Airport car park. Data on cars was collected by surveying, recording the license plates hourly throughout 24 hours in a week. The purpose was to collect information about 1) the number of cars using services and 2) parking duration.

5.5 **The tools used in the research** include in-depth interviews, questionnaires for the passenger terminal users and paper for counting the cars.

5.6 Statistics used in the research include frequency, percentage, average, maximum, minimum, standard deviation and ANOVA.

6. FINDINGS

The researcher studied two main points, viz. the use of parking spaces and the satisfaction of Thai people using Don Mueang Airport. The research results are as follows.

6.1 Use of parking spaces in 4 aspects

6.1.1 Average daily volume of parked cars in a 7- story car park at DMK, meaning the total number of vehicles parked during the period of study and data collection. According to the findings, the average number of parked cars was 1,490.17 vehicles per day, while the percentage of space use with a total of 1,349 parking spaces for all 7 stories.

1) Maximum parking rate was in a range from 118.75 to 125.79 percent of parking spaces between 7.00 hrs. -16.00 hrs. 2) Minimum parking rate was in the 92.8

percentage range of parking spaces at 23.00 hrs. 3) The average percentage of parking use was 110.46 percent of parking spaces. These values can be represented by the following graph.

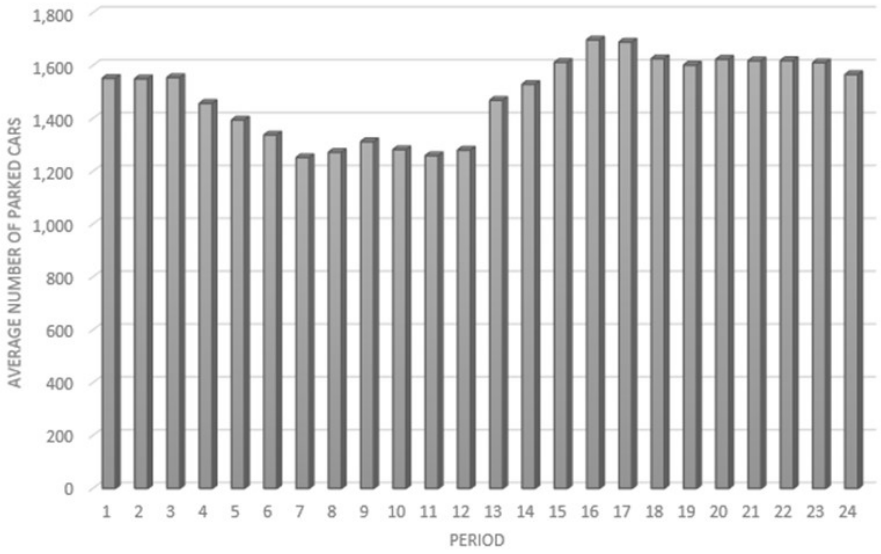

Figure 2 Graph showing the number of parked cars in each time range

Table 1 Number of cars parked at each time

Period	Time	average number of parked cars	percentage of space use
1	17.00-17.59 Pm	1,552	115.048184
2	18.00-18.59 Pm	1,550	114.899926
3	19.00-19.59 Pm	1,555	115.270571
4	20.00-20.59 Pm	1,457	108.00593
5	21.00-21.59 Pm	1,394	103.335804
6	22.00-22.59 Pm	1,337	99.1104522
7	23.00-23.59 Pm	1,252	92.8094885
8	24.00 - 24.59 Am	1,272	94.2920682
9	01.00 - 01-59Am	1,312	97.2572276
10	02.00 - 02-59Am	1,282	95.033358
11	03.00-03.59 Am	1,259	93.3283914
12	04.00-04.59Am	1,280	94.8851001
13	05.00-05.59Am	1,469	108.895478
14	06.00-06.59Am	1,529	113.343217
15	07.00-07.59Am	1,612	119.495923
16	08.00-08.59Am	1,697	125.796887
17	09.00 - 9.59 Am	1,689	125.203855
18	10.00-10.59Am	1,626	120.533729
19	11.00-11.59Am	1,602	118.754633
20	12.00 - 12.59Pm	1,624	120.385471
21	13.00-13.59Pm	1,618	119.940697
22	14.00-14.59Pm	1,619	120.014826
23	15.00-15.59Pm	1,611	119.421794
24	16.00 - 16.59Pm	1,566	116.08599
	average	1,490.167	110.464542

Table 2 Number of parking lots classified by parking period

List	1	2	3	4	5	6	7	8	9-23 (15)	24 up	total
Number of car	366	682	795	377	302	179	1,181	29	852	307	**5,070**
Hour	366	1,364	2,385	1,508	1,510	1,074	8,267	232	12,780	7,368	36,854

6.1.2 The average parking time per car in a 7-story car park at DMK was 7.27 hours. The calculation can be shown as follows:

Average time of parking occupancy

$$= \frac{\text{Sum of parking occupancy time for each car}}{\text{Total number of cars parked in the area}}$$

$$= 36,854/5,070 = 7.27 \text{ hours}$$

6.1.3 Turnover rate means the number of cars using the same parking spaces continuously during the study period with the turnover of cars entering and exiting, equaling 0.15 cars per space per hour.

Calculation can be carried out from the equation $TR = Nr / P_S X T_S$

Where TR = Turnover rate (Unit: Cars per space per hour)

N_r = Total number of vehicles from observation of parking

P_S = Total number of vehicles parked in parking spaces

(Correctly according to regulations)

T_S = Duration of study (Unit: Hour)

$$TR = \frac{5,070}{1,349X24} \text{ (from Table 2)}$$

$$= 0.15 \text{ cars per space per hour}$$

6.1.4 Parking space management at the parking building. There are 2 types of parking cards:

1) Monthly and yearly cards for Airports of Thailand Public Company Limited, government agencies, airlines and entrepreneurs at DMK.

2) Hourly card for airport users with the following service rates: 0- 3 hours = 20 baht, 4 hours= 40 baht, 5 hours = 60 baht, 6 hours= 80 baht, 7 hours= 100 baht and 8- 24 hours= 250 baht, excessive minutes are rounded to the next nearest hour.

6.2 Satisfaction of Don Mueang Airport users with parking spaces and shops in the passenger terminal:

The researcher tested the reliability of 30 sets of questionnaires, which were used to find the Cronbach's alpha coefficient. The reliability level was found to be 0.877. Reliability of the questionnaire was considered to be at a very high level and was used by the researcher with the actual samples.

The findings indicate that DMK has an overall satisfaction score of 3.64 out of 5, as shown in the following table.

list	N	Minimum	Maximum	Mean	Std. Deviation
Parking spaces :					
1. Proper, short-term parking in front of the building	399	1	5	3.64	.826
2. Enough parking spaces in the international building	397	1	5	3.46	.821
3. Enough parking spaces in the domestic building	395	1	5	3.43	.856
4. Organizing parking facilities properly	394	1	5	3.48	.811
5. Reasonable service rate	397	1	5	3.44	.797
6. Staff enthusiasm for service	396	1	5	3.64	.803
7. Polite service	396	2	5	3.77	.775
Shops :					
8. Various of shops	401	1	5	3.71	.763
9. Proper shop space arrangement	398	1	5	3.69	.743
10. Suitable number of shops	400	1	5	3.62	.789
11. Cleanliness of food, beverages	400	1	5	3.86	.722
12.Employee service	401	1	5	3.83	.720
13. Suitable shop space arrangement	401	1	5	3.75	.690
Overall satisfaction	**401**	**2.08**	**5**	**3.64**	**.517**

Research hypothesis testing

6.2.1 Overall, people with monthly income differences were satisfied with service areas at Don Mueang Airport to minimally varying degrees. According to the findings, the hypothesis concerning different income groups have different satisfaction was accepted. With monthly income differences, overall satisfaction with service areas at Don Mueang Airport in terms of parking spaces and shops was dissimilar at a significance level of 0.003. According to Tables 4 and 5, there are 8 different pairs. The maximum differential pair and the lowest were 1) Income lower than 15,000 baht, differing from income of 50,001 - 100,000 baht and 2) Income of 15,000 baht - 25,000 baht differing from income of 25,001 - 35,000 baht with 0.39394 (plus, minus) and 0.27500 (plus, minus), respectively.

Table 4. Testing of the hypothesis concerning income differences with no difference in overall satisfaction levels

ANOVA

Total _group2

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	6.241	5	1.248	3.600	.003
Within Groups	135.932	392	.347		
Total	142.173	397			

* Significant level 0.05

Table 5 Shows different incomes with different satisfaction levels

Multiple Comparisons

Dependent Variable: total_group2
LSD

(I) Average monthly income	(J) Average monthly Income (bath)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Lower 15,000 baht	15,000 - 25,000	.05227	.07065	.460	-.0866	.1912
	25,001 - 35,000	.32727*	.10959	.003	.1118	.5427
	35,001 - 50,000	.16913	.10083	.094	-.0291	.3674
	50,001 - 100,000	.39394*	.12225	.001	.1536	.6343
	100,001 up	.10227	.21318	.632	-.3169	.5214
15,000 - 25,000 baht	Lower 15,000	-.05227	.07065	.460	-.1912	.0866
	25,001 - 35,000	.27500*	.11313	.016	.0526	.4974
	35,001 - 50,000	.11686	.10466	.265	-.0889	.3226
	50,001 - 100,000	.34167*	.12543	.007	.0951	.5883
	100,001 up	.05000	.21502	.816	-.3727	.4727

Table 5 Shows different incomes with different satisfaction levels (continued)

25,001 - 35,000 baht	Lower 15,000	-.32727*	.10959	.003	-.5427	-.1118
	15,000 - 25,000	-.27500*	.11313	.016	-.4974	-.0526
	35,001 - 50,000	-.15814	.13406	.239	-.4217	.1054
	50,001 - 100,000	.06667	.15083	.659	-.2299	.3632
	100,001 up	-.22500	.23077	.330	-.6787	.2287
35,001 - 50,000 bath	Lower 15,000	-.16913	.10083	.094	-.3674	.0291
	15,000 - 25,000	-.11686	.10466	.265	-.3226	.0889
	25,001 - 35,000	.15814	.13406	.239	-.1054	.4217
	50,001 - 100,000	.22481	.14459	.121	-.0595	.5091
	100,001 up	-.06686	.22674	.768	-.5126	.3789
50,001 - 100,000 baht	Lower 15,000	-.39394*	.12225	.001	-.6343	-.1536
	15,000 - 25,000	-.34167*	.12543	.007	-.5883	-.0951
	25,001 - 35,000	-.06667	.15083	.659	-.3632	.2299
	35,001 - 50,000	-.22481	.14459	.121	-.5091	.0595
	100,001 up	-.29167	.23704	.219	-.7577	.1744
100,001 baht up	Lower 15,000	-.10227	.21318	.632	-.5214	.3169
	15,000 - 25,000	-.05000	.21502	.816	-.4727	.3727
	25,001 - 35,000	.22500	.23077	.330	-.2287	.6787
	35,001 - 50,000	.06686	.22674	.768	-.3789	.5126
	50,001 - 100,000	.29167	.23704	.219	-.1744	.7577

*. The mean difference is significant at the 0.05 level.

6.2.2. Overall, people with age differences were satisfied with service areas at Don Mueang Airport to minimally varying degrees. Thus, the research revealed that the hypothesis on different age groups have different satisfaction would was accepted. With age differences, overall satisfaction with service areas at Don Mueang Airport in terms of parking spaces and shops was dissimilar at a significance level of 0.025. According to Table 3, there are 4 different pairs. The maximum differential pair and the lowest were 1) under 25 years old, differing from 41-50 years old 2) between 25-30 years old, differing from 41-50 years with 0.31411 (plus minus) and 0.27799 (plus minus) respectively. The test results are shown in Tables 3 and 7.

Table 6 Hypothesis testing with age differences, showing overall satisfaction was not different.

ANOVA

Total _group2

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	4.553	5	.911	2.601	.025
Within Groups	138.290	395	.350		
Total	142.843	400			

* Significant level0.05

Table 7 Different ages with different satisfaction levels

Multiple Comparisons

Dependent Variable: total_group2
LSD

age (year) (I)	age (year) (J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Lower 25	25 - 30	.03613	.07842	.645	-.1180	.1903
	31 - 40	.13136	.08919	.142	-.0440	.3067
	41-50	.31411*	.09327	.001	.1307	.4975
	50-60	.14576	.11325	.199	-.0769	.3684
	61 up	.22152	.24610	.369	-.2623	.7054
25 - 30	Lower 25	-.03613	.07842	.645	-.1903	.1180
	31 - 40	.09523	.09835	.334	-.0981	.2886
	41 -50	.27799*	.10206	.007	.0773	.4786
	50-60	.10964	.12059	.364	-.1274	.3467
	61 up	.18539	.24957	.458	-.3053	.6760
31 - 40	Lower 25	-.13136	.08919	.142	-.3067	.0440
	25 - 30	-.09523	.09835	.334	-.2886	.0981
	41-50	.18276	.11056	.099	-.0346	.4001
	50-60	.01441	.12786	.910	-.2370	.2658
	61 up	.09016	.25316	.722	-.4075	.5879
41-50	Lower 25	-.31411*	.09327	.001	-.4975	-.1307
	25 - 30	-.27799*	.10206	.007	-.4786	-.0773
	31 - 40	-.18276	.11056	.099	-.4001	.0346
	50-60	-.16835	.13074	.199	-.4254	.0887
	61 up	-.09259	.25462	.716	-.5932	.4080
50-60	Lower 25	-.14576	.11325	.199	-.3684	.0769
	25 - 30	-.10964	.12059	.364	-.3467	.1274
	31 - 40	-.01441	.12786	.910	-.2658	.2370
	41-50	.16835	.13074	.199	-.0887	.4254
	61 up	.07576	.26260	.773	-.4405	.5920
61 up	up 25	-.22152	.24610	.369	-.7054	.2623
	25 - 30	-.18539	.24957	.458	-.6760	.3053
	31 - 40	-.09016	.25316	.722	-.5879	.4075
	41 -50	.09259	.25462	.716	-.4080	.5932
	50-60	-.07576	.26260	.773	-.5920	.4405

*. The mean difference is significant at the 0.05 level.

7. CONCLUSIONS

This research aimed to study the use of parking spaces in a 7-story car park at Don Mueang Airport in relation to (1) the average daily volume of cars, (2) the average parking time per car, (3) Turnover rate, and (4) service users' satisfaction with parking spaces and shops in the passenger terminal. The tools used for research included interviews, questionnaires and paper for counting the number of cars. The research hypotheses are as follows: (1) Overall, people with monthly income differences would show different levels of satisfaction with service areas at Don Mueang Airport ; (2) Overall, people with age differences would show different levels of satisfaction with service areas at Don Mueang Airport. The findings identified the following: (1) The average number of parked cars was 1,490.17 vehicles per day. (2) The average parking time per car was 7.27 hours. (3) Turnover rate was 0.15 cars per space per hour. (4) Satisfaction among Don Mueang Airport users with parking spaces and shops was at a high level, with averages of 3.64 and 3.71, respectively. Hypothesis testing showed that overall satisfaction with service areas at Don Mueang Airport in terms of parking spaces and shops varied in a statistically significant manner,0.05, based on age and income differences.

8. DISCUSSION AND SUGGESTIONS FOR FURTHER RESEARCH

8.1 Average parking time of 7.27 hours with 1,317 cars parked for 7 hours was the highest number of cars per day. This is consistent with the change in parking rate from 100 baht to 250 baht (if parking for 8-24 hours).The researcher expects that most people parking in a 7-story car park for long periods are likely to be employees working at Don Mueang Airport due to the time being consistent with the maximum number of cars, i.e. 9.00 hrs. This is the start time for various companies with an average work day being 7 hours according to various companies' schedules.

8.2 According to the research results, satisfaction among DMK users was at a high level. This is in line with research by Bolivan Kuozuwan (2016), meaning that DMK failed to make the users more satisfied in various aspects at the highest level in 2016 and 2017.

8.3 Acceptance of research hypothesis: Service users with different monthly incomes and ages had different overall satisfaction levels toward service areas at DMK. This is because satisfaction is a variant based largely on livelihood and personal status. This is consistent with the studies of Rattana Pookpakdee (2015), Wachara Manupeeraphan (2009), Yossathorn Ketsawat and Athipol Sastranarakul (2017) and Pornpaktra Sakda (2015).

8.4 Research should be carried out continuously, especially to study whether the implementation of fixed plans by Don Mueang Airport can make service users more satisfied than before implementation.

9. APPLICATION

9.1 Since the 7th floor of the parking building at Don Mueang International Airport was heavily used by permanent staff for 7 hours, it caused passenger and transporter problems concerning finding parking spaces. The researcher found that Don Mueang International Airport should build new parking buildings and separate parking spaces for

airport staff away from passengers and transporters. It takes time finding parking spaces, which could cause economic loss. At present, Don Mueang International Airport plans private cooperation to build a new parking building at a cost of 680 million baht. The construction is going to start in 2018 and is expected to be completed in 2019.

9.2 Since the Board of Directors for Airports of Thailand Public Company Limited wishes airport users to have the highest rate of satisfaction, they created a policy to develop many service areas, including commercial areas and parking spaces, which is set in a long-term plan. The policy aims to serve needs and support further growth as well as create satisfaction among service users. It is expected that service users' satisfaction will increase after the policy details are implemented fully.

10.REFERENCES

Airport-technology.com, *Don Mueng International Airport (Formerly Bangkok International Airport), Thailand*. Retrieved from www.Airport-technology.com,2 November 2017.

Airports of Thailand Public Company Limited.*AOT expects service users at 6 airports to be increased during winter*. Retrieved from www.airporthai.co.th, 2 November 2017.

Airports of Thailand Public Company Limited. *Air transport statistic*. Retrieved from www.aot.listedcompany.com, on 2 November 2017.

Budda,N. et al. (2013). *Study on the Use of Parking Spaces: Type of Off-Road Parking in the Old City, Chiang Mai Province*, Research in Transportation Engineering Chiang Mai University

Chantarat, I . (2009) . *Customer's expectation and perception toward service quality on a Low cost airline for domestic flight.* Master's thesis of Business Administration, Graduate School, Srinakharinwirot University.

Chanjaroen ,P (Interviewee). (2017). *Don Mueang Airport Overflowing with 35 Million Passengers*. Going Ahead to Expand the 3rd Phase (Electronic Version). Prachatchat Business Online, Retrieved on 31 May 2017, from http://www.prachachat.net/news_detail.

(Interviewee). (2016). *Airports of Thailand PCL (AOT)Preparing to Open Auction for Building Parking Lot* (Electronic Version) Bangkok Biz Newspaper, Retrieved on 31 May 2017 from www.bangkokbiznew.com.

Chaplin, J. (2015). *Customer satisfaction measurement and management*. J.P. Dictionary of psychology. New York: Reaquin Book.

Fitzgerald R. M. and Durant, F. (1980). *"Citizen evaluations and urban management: Service delivery in an era of protest*," Public Administration Review**.** 40(6) : 585-594.

Garling, T, Schuitema, G.(2007). *Travel demand management targeting reduced private car use: effectiveness, public acceptability and political feasibility*. Journal of Social Issues, 63, 139-153.

Kueasuwan ,B. (2016). *Don Mueang Airport's Ground Service*: *Case Study of Service Users from ASEAN Countries*, Research Report.

Ketsawat Y., Sastranarakul A. (2017). *Satisfaction of Chinese Passengers with Suvarnabhumi Airport.* The 5th National

SuanSunandha Conference on Research for Sustainable Development. International College of Aviation, NakhonPhanom University.

Lohagul, B.(2016). *Satisfaction with Service of Ranong Airport Users*. 7th National Conference and Presentation of Research Works at National and International Levels SSRU2016 Public Administration Program (Public and Private Management) Suan Sunandha Rajabhat University.

Manupeeraphan, W. (2009).*Satisfaction of Thai Tourists with Marketing Service Factors of Thai AirAsia Airline*, Master Thesis. Bangkok University.

Piriyawat, S. (2008). *Transportation Engineering*. Department of Civil Engineering Faculty of Engineering, Burapa University, Chapter 7, Pages 283-292.

Phukphakdee, R .(2558).*Satisfaction of Thai Customers on Thai Airways*. Independent Study of Master of Arts, Management of Service and Tourism, Bangkok University.

Rakvong S. (2014). *Survey of Parking Spaces and Estimate of Cars Parked in Damnoen Saduak Hospital*. Research R2R Medical Illustration and Audiovisual Technology Department.

Sirisamatthakarn, N. (Interviewee) .(2017). *Airports of Thailand PCL (AOT) Don Mueang Electric Train Plan* (Electronic Version). Thairath Online. Retrieved on 31May 2017, from http://www.thairath.co.th/content/864651

Sakda , P.(2015). *Passengers' Satisfaction with Service in Samui Airport*. Research, Department of Service Industry, Surat Thani Rajabhat University Research Grants

Sammana, W. (2014).*Study of Factors Affecting the Duration and Behavior of Parking in Department Store: Case Study of the Mall Shopping Center, Nakhon Ratchasima Province*. Master Thesis, Transportation Engineering Program. Suranaree University of Technology.

Toempitthayapaisit, A. (Interviewee). (2017). *Transport Ministry Expediting the Use of 100 Million Baht Budget to Study, Adjust High Speed Route Linking 3 Airports to Accommodate EEC* (Electronic Version) , Economic News, InfoQuest (IQ) Press Agency. Retrieved on 31 May 2017, from http://www.ryt9.com/economy-latest/2017-04-11-18:21:14/