



FACTOR AFFECTING THE DECISION IN TO CHOOSE FULL-SERVICE AIRLINES
AMONG THAI PEOPLES



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INTRODUCTION

STATEMENT OF THE PROBLEM

Airline Industry is now part of the tourism and travel industry which airline services give an important role in the growth of tourism in many countries of the world. Since the transportation becomes more affordable for many tourists so there are increasing in the competition and technology. To meet the need of consumers in competitive markets, the airline should be able to provide services that cover to the regions of the world. In other words, the airline should adapt themselves to globalization and competition. In the early stages of airline industry will have to serve specific services such as Full-Service airline. The class of services allowing the customer to choose the level of services they want to be. In Full-Service is including the comfort and width of seats on the plane which usually classified into 3 types which are First Class, Business Class and Economic Class. However, there are some airlines that not providing all three classes because they are not need to be on top of airline industry such as Low-Cost airline. Thus, the ticket price is vary though many factors such as routes and quality of services.

The aviation sector in Thailand, comprising together with the airlines and the airports carries over 40 million passengers and 1.1 millions of air freight within Thailand.¹ There are more than 99,800 scheduled international flights that depart and arrive annually in Thailand and more than 108,400 flights with over 17 million seats of passengers including both full service airlines and low cost airlines.² Many peoples use the air transport for their holiday and businesses or even delivery of mail and goods for over the distances. Thus, the economic benefit gained from the air transport is the value generated to the customers, passengers and shippers. 850 billion baht on air travel were spent by the passengers in 2009 and shippers spent 119 billion baht on the air

¹ This is the amount of the domestic passengers on flight arriving and departing on international flights. Every passengers connected the flight within Thai airport. The number counted on the arriving flight and departing flight.

² Annually in 2010 collected by SRSAnalyzer.

cargo.³ This show that Thailand's air service created higher economic value for the customer from flight to flight and from customer to customer.

Improvement in airline industry will be more important. Especially in Thailand which is the hub of ASEAN countries, varies with many logistic transportation. Keep in mind , this study aims to determine the factors that affect the decision of full-service airline in Thailand. In recent years full service lose their market share to low-cost service airline in some routes such as between Thai airways and Thai airasia. This will motivate Thai airways to develop their position and marketing strategies. Although there are some Full-Service and Low-cost service airline are compete directly with each other in the same service, but now low cost airlines tend to operate on regional same as Full-Service airline. Thus, this study aim to analyze the factor that affect to the decision of full-service airline among Thai peoples living in Thailand area at the age of 18-65 years old.

OBJECTIVE OF STUDY

This study aims to explore the factor that affect to the decision making to select full-service airline among Thai customers.

³ Passengers spending based on IATA's PaxIS database and the shippers spending based on IATA's CargoIS database.

LITERATURE REVIEW

The literature review is explained in 2 sections which are 1. Factor affecting the customer's decision of full-service and low-cost service. 2. Factor choosing Thai Airline Service. The first section on factor affecting the customer's decision of full-service and low-cost service tend to provide factor that customers keep in mind when choosing between full-service and low-cost services. The next section on factor choosing Thai Airline Service related to the options that studied by the passenger's choice in the Nested Logit Model. The last section will conclude about the key takes away from the literature review to use in the methodology.

FACTOR AFFECTING THE CUSTOMER'S DECISION OF FULL-SERVICE AND LOW-COST SERVICE

Boey Tuck SAI (2011⁴) explained that customers are paying for more than just a seat in the airline with the perception of benefits getting from the product and services. The evaluation benefits to choose whether full-service airline or low-cost service airline will affect to the customer's attitude to choose. Applying to the study, the decision of "Choose or not Choose" full-service airline can be explained by Factor affecting the customer's decision of full-service and low-cost service.

In order to satisfy the customers, benefits that deliver from full-service airlines such as quality of services, routes, budget and availability may be important. This study use the intentions of future communications to guide the quality and satisfaction to measure the performance (Cronin and Taylor, 1992).

Service Quality has an important play in the business strategy of differentiation which have a great impact on both full-service airline and low-cost airline. Low-cost airline usually differentiate themselves from other competitors by being a price-leader in the

⁴ Boey Tuck Sai " Factors determining the choice of full service airlines and low cost carriers: Case of Malaysia", Asia-Pacific Chrie Hong Kong .

market while full-services airline tend to provide full services strategy among the nations such as various routes, having the frequent flyer programs and connect with the global alliances.

Price of airline fares charging to the customers are not standard for all customers in a particular flight compared with other routes. The airlines use the strategy of many types of fare to discriminate for each types of ticket such as business and tourism. Some types of ticket are flexible if the customers want to make a change to switch from flight to flight.

In conclusion, this study use factor affecting customer's decision of full-service and low-cost service to determine whether the customers will choose full-services airline or not. The next literature review will discuss about Factor choosing Thai Airline Service that looking deeper in the Thai airline Industry.

FACTOR CHOOSING THAI AIRLINE SERVICE

Piyoros Youngyoodde (2017⁵) present that Thai airways get the revenue from the aviation industry. The customers from domestic and foreign from over the world travel through airlines are increasing all the time. The choice of airline service is an another factor of the customers to select the airline to travel. This paper explains that Thai airway and Thai Smile airline has both advantage and disadvantage in full line of Premium comparing with other full-service airline. Thai airways airline costs more than other airlines but all offer more quality service and convenience.

The result from this paper analyze about the factors that influence the choice of airline services and travel are price for food and beverages. From the limited model logit, the durable of the flight ticket are key factor in the airline's customer decision to set a goal

⁵ Piyoros Youngyoodde, 2017. "Factor affecting to use Thai Airline Service using Nested Logit Model ", Chiangmai University, 319-321.

to earn the trip. Another is the class of the service that each airline offer such as First Class, Business Class and Economy Class.

The result from the literature review “I choose to study the “Factor affecting the decision to choose full-service airline”. The dependent variable of decision to choose full-service or not will determined by the social economics factor such as gender, age, education and income. The customer satisfaction can be determined by 1. Budget 2. Bus 3. Train 4. Friendly of people 5. Full information 6. Baggage services 7. Changing dates services 8. Food 9. Wifi 10. Movie 11. Gender 12. Age.

METHODOLOGY

Methodology is presented in 3 parts which is Variables, Data Collection and Statistical Treatment. Dependent and independent variable also be in the controlled model that will be explained in the following this section. We set the dependent and independent variable in the variable part, following by data collection that will discuss about the questionnaire in google surveys which is a method to collect the result. When the data is collected, we clean the data, run the model and select the model by using statistical treatment.

VARIABLES

Since we would like to see the factor affecting the decision to choose full-service among Thai people, the most important decision is about whether to choose full-service airline or not. Then, I choose whether to choose full-service airline or not as the dependent variable to study.

From the literature review, I have decided to use 2 categories of independent variables, explanatory variables named Socio-Economic factors and Factor affecting the customer's decision to choose full-service and low-cost service airline. It is provided by

many research, some of which is in the literature review as the factor of the customer decision are measured by the destination routes and quality of services. (Boey Tuck SAI, 2011⁶). The customer decision is the main indicator of whether to choose full-service airline or not, it can be treated as the summation of all components for this study which are 1. Budget 2. Bus 3. Train 4. Friendly of people 5. Full information 6. Baggage services 7. Changing dates services 8. Food 9. Wifi 10. Movie 11. Gender 12. Age.

Because of not every people have the same utility function so I use the Social-Economic factors into the model. The main factor this researches use are gender, age, education and income. This study focuses on Thai peoples so we collected the age of respondent to be between 18-65 because all of this age are able to travel and pay for the flight themselves.

Once we finished with deriving the model from the respondent which are Thai peoples who booking the flight then we will run the controlled model with the same dependent variable. The controlled variable will be the decision of the same respondents and same sample groups.

DATA COLLECTION

This study was carried out in Bangkok area. Thai people age between 18-65 at the time of survey were the target group for this study. The total of 353 responses were collected by the google forms in April 2018. All of the responses are Thai people because I use Thai language as a question in the survey. The survey were distributed through the social media such as Facebook and Line.

The question consisted of 4 sections: 1. Question of factors affecting Airline decision in Asia among Thai peoples 2. Behavior in booking flight 3. Factor affecting the airline decision 4. Social-Economic factors of the respondents.

⁶ Boey Tuck Sai " Factors determining the choice of full service airlines and low cost carriers: Case of Malaysia", Asia-Pacific Chrie Hong Kong

The first section of the survey is the explanation and the purpose of the topic. Following by the second section by asking the respondents whether they have ever travel in Asia before. Then asked about how long they need for each trip in Asia. Then interpreted decision choose or not choose decision. In the first section of the survey will be asked the respondents for the variables of interest.

The second section asked about “factor affecting the customer decision among Thai people”. This section, the respondents were asked to evaluate the average important of each factors which the score are ranking from 0 the lowest to 5 the highest. Each factors are 1. Budget 2. Bus 3. Train 4. Friendly of people 5. Full information 6. Baggage services 7. Changing dates services 8. Food 9. Wifi 10. Movie 11. Gender 12. Age.

Lastly, the respondents were asked for their Social-Economic factors which are Gender, Age, Education, Income and frequently of shopping mall. We will only receive the data of Thai people only. After consideration, we assume that almost everyone are all Thai people because all questionnaires in the survey are Thai language and asked about deep inside of Thai people only.

STATISTICAL TREATMENT OF THE DATA

The data received from the survey is analyzed by running the regression in STATA program. The data are transformed into numerical from alphabet data. For the dependent variable “Choose full-service airline” or “Not Choose full-service airline” decision is changed to the numerical terms which are 1 represent Choose and 0 represent Not Choose.

Equation 1: Factors affecting “Choose full-service airline or not Choose full-service airline” decisions

$$\text{Thai} = \alpha_1 + \alpha_2 \text{Bd} + \alpha_3 \text{Bus} + \alpha_4 \text{Train} + \alpha_5 \text{Pfriendlyofpp} + \alpha_6 \text{Pfullinfo} + \alpha_7 \text{Pbag} + \alpha_8 \text{PChangedate} + \alpha_9 \text{PFood} + \alpha_{10} \text{PWifi} + \alpha_{11} \text{PMovie} + \alpha_{12} \text{Gender} + \alpha_{13} \text{Age}$$

- Thai represent whether the customer decision to choose full-service airline or not. (0=Not Choose 1=Not choose)
- Bd represent monthly income in Thai Baht.
- Bus represent if the customer use buses as a transportation in Asia. (0=Not Use, 1=Use)
- Train represent if the customer use trains as a transportation in Asia. (0=Not Use, 1=Use)
- Pfriendlyofpp represent the performance of friendly of people, from score 1-5 ascending order.
- Pfullinfo represent the performance of full information, from score 1-5 ascending order.
- Pbag represent the service luggage in flight, from score 1-5 ascending order.
- Pchangedate represent the service of changing date, from score 1-5 ascending order.
- Pfood represent the food on flights, from score 1-5 ascending order.
- Pwifi represent the wifi on flights, from score 1-5 ascending order.
- Pmovie represent the movie on flights, from score 1-5 ascending order.
- Gender represents 0=Male, 1=Female
- Age represent the number of customer's ages.

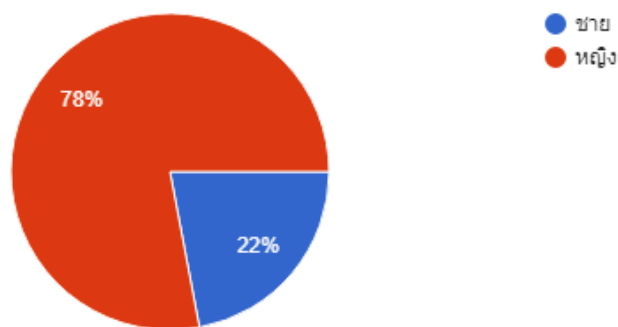
The dependent variable in this model is binary, so we choose the logistic regression model to run the regression instead of normal regression models and find the marginal effects of explanatory variables in the case of success or ($y=1$).

RESULTS AND DISCUSSIONS

We receive 353 responses from Thai people aging between 18-65 years old which are living in Thailand. Around 78 percent of respondents are female and 22 percent are male. After considering the survey, most respondents belong to middle income to high income group which comes from 70.9 percent of the respondents who have incomes more than 30,001 baht per month. As for the rest, 11.3 percent, 10.2 percent and 7.6 percent for the groups belong to 20,001-30,000, 10,001-20,000 and less than 10,000 baht per month respectively. The respondents consist of 59.6 percent of Bachelor degree, 31.6 percent of Master degree, 5.4 percent of less than Bachelor degree and 3.4 percent higher than Master degree. The survey found that 95.5 percent have travelled in Asia before and 78.8 percent have booked a flight before.

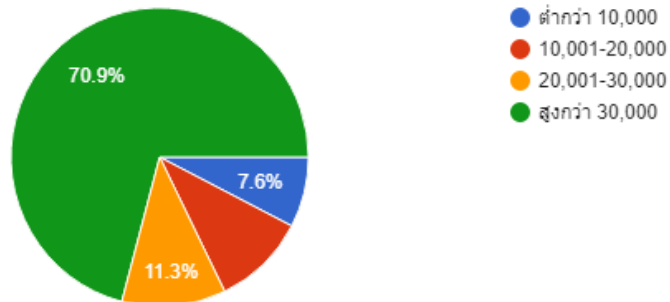
เพศ

354 responses



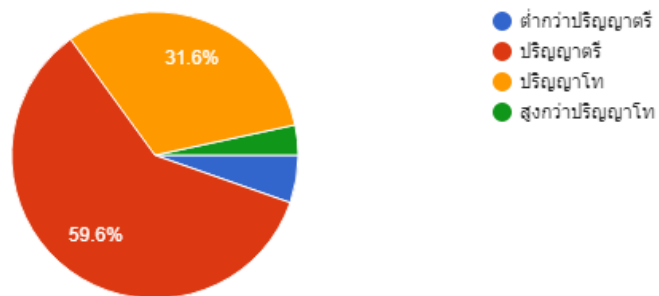
รายได้ต่อเดือน

354 responses



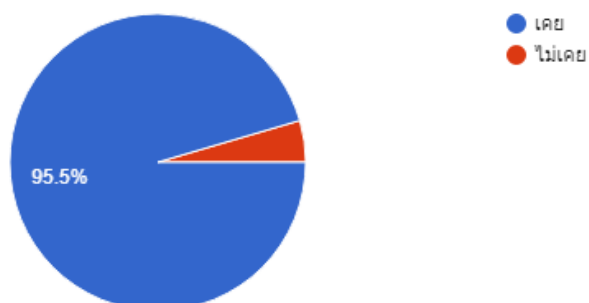
การศึกษา

354 responses



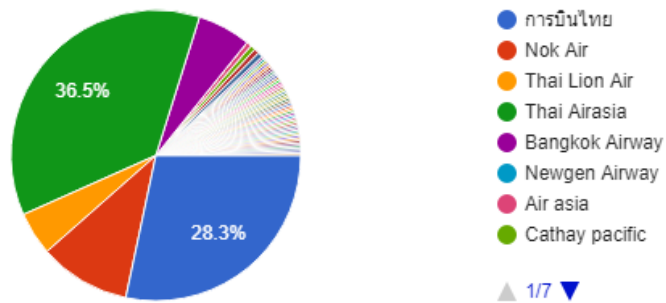
1. ท่านเคยท่องเที่ยวในเอเชียมาก่อนหรือไม่

353 responses



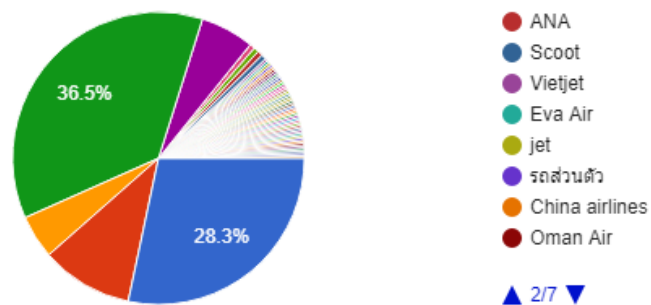
5. เดินทางครั้งล่าสุดในเอเชีย ท่านเลือกโดยสารสายการบินอะไร

353 responses



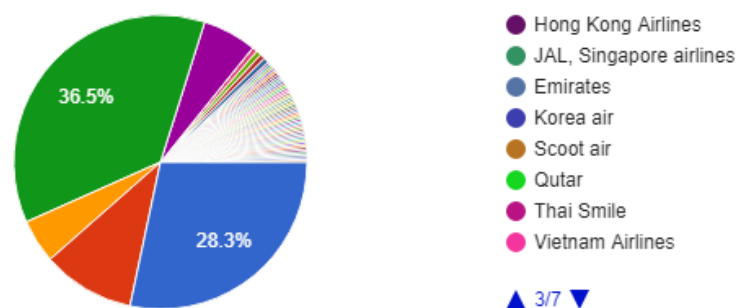
5. เดินทางครั้งล่าสุดในเอเชีย ท่านเลือกโดยสารสายการบินอะไร

353 responses



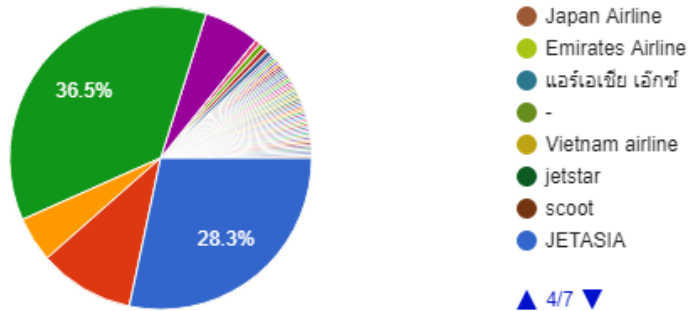
5. เดินทางครั้งล่าสุดในเอเชีย ท่านเลือกโดยสารสายการบินอะไร

353 responses



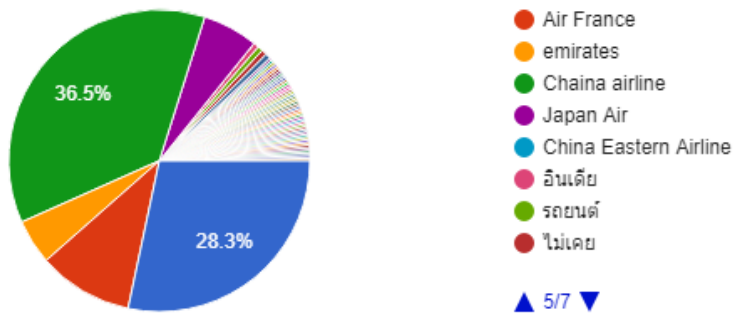
5. เดินทางครั้งล่าสุดในเอเชีย ท่านเลือกโดยสารสายการบินอะไร

353 responses



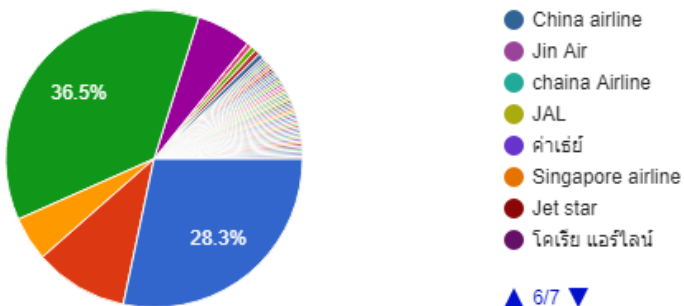
5. เดินทางครั้งล่าสุดในเอเชีย ท่านเลือกโดยสารสายการบินอะไร

353 responses



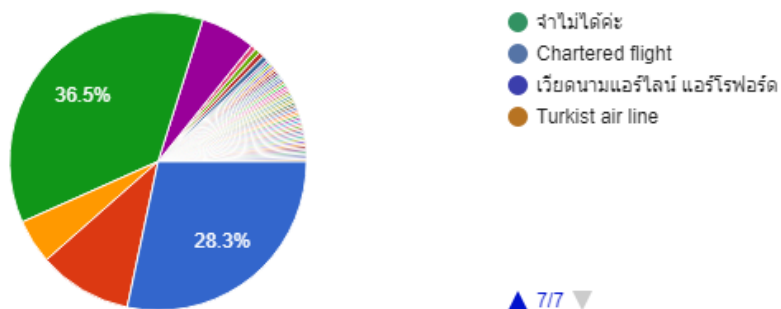
5. เดินทางครั้งล่าสุดในเอเชีย ท่านเลือกโดยสารสายการบินอะไร

353 responses



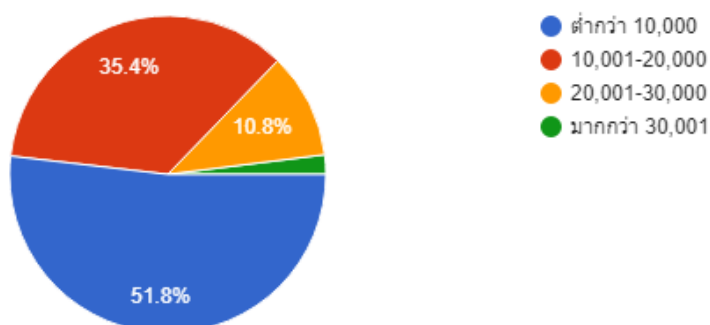
5. เดินทางครั้งล่าสุดในเอเชีย ท่านเลือกโดยสารสายการบินอะไร

353 responses



6. ราคาตั๋วเครื่องบินไป-กลับ ของการท่องเที่ยวในข้อ 5 คือเท่าไร (โดยประมาณ)

353 responses



REGRESSION (appendix 2)

Logistic regression

Number of obs = 353

LR chi2(12) = 72.51

Prob > chi2 = 0.0000

Log likelihood = -172.26154

Pseudo R2 = 0.1739

thai	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
budget_est	.0000847	.0000176	4.82	0.000	.0000503	.0001191
bus	-1.439497	.6511647	-2.21	0.027	-2.715757	-.163238
train	.7861122	.5436741	1.45	0.148	-.2794695	1.851694
Pfriendlyofpp	-.0176505	.2405783	-0.07	0.942	-.4891752	.4538743
Pfullinfo	-.1999952	.2070722	-0.97	0.334	-.6058492	.2058588
Pbag	-.2677054	.2850352	-0.94	0.348	-.826364	.2909533
Pchangedate	.2973805	.2197706	1.35	0.176	-.1333621	.728123
Pfood	.7079796	.2087338	3.39	0.001	.298869	1.11709
Pwifi	-.3921666	.1692753	-2.32	0.021	-.7239401	-.0603932
Pmovie	.4236554	.1890595	2.24	0.025	.0531056	.7942052
gender	.179613	.3235296	0.56	0.579	-.4544933	.8137193
age	.0049345	.0121378	0.41	0.684	-.0188551	.0287242
_cons	-4.510025	1.382857	-3.26	0.001	-7.220375	-1.799674

Logistic model for thai

Classified	True		Total
	D	~D	
+	34	15	49
-	64	240	304
Total	98	255	353

Classified + if predicted $\Pr(D) \geq .5$
 True D defined as thai != 0

Sensitivity	$\Pr(+ D)$	34.69%
Specificity	$\Pr(- \sim D)$	94.12%
Positive predictive value	$\Pr(D +)$	69.39%
Negative predictive value	$\Pr(\sim D -)$	78.95%
False + rate for true ~D	$\Pr(+ \sim D)$	5.88%
False - rate for true D	$\Pr(- D)$	65.31%
False + rate for classified +	$\Pr(\sim D +)$	30.61%
False - rate for classified -	$\Pr(D -)$	21.05%
Correctly classified		77.62%

The dependent variable Thai here represent the customer decision to choose full-service airline. This model is significant as LR $\chi^2 = 72.15$, $\text{Prob} > \chi^2 = 0.0000$, at 5% significance. The overall rate of correctly classified to predict “thai” of the models is estimated to be 77.62% with the cut value of 0.500, and use the model to predict the value for “thai” as collect 77.62% of the time. The model classify true positive with 34.69% but it has higher in specificity of true negative with 94.12%. Thus, this model can be used to find the factor that affecting the customer decision not to choose full-service airline but less useful in finding the factor that affecting the customer decision to choose full-service airline

The significant factors that affect to the customer decision are budget, bus, food, wifi and movie while train, friendly of people, full information, Baggage services, change date services, gender and age are not significant in this model. In this case, we can see that people are able to pay for the airline booking and get the benefit from the flight. The ability to pay refer to the budget or the amount of money that the customer can prepare

for the booking fare. The not significant variables which are friendly of people, full information, baggage services and change date services, it is possible to be not significant because mostly those variable are service minds in the flights that normally peoples do not care much even though the service mind is bad because they mainly aim to the air transportation only. Furthermore, the socio-economic factors, gender and age are not significant, this means that for booking the flight, the customers should be old enough to work to gain some money and not every age can book the flight.

Marginal effects after logit
y = Pr(thai) (predict)
= .23669764

variable	dy/dx	Std. Err.	z	P> z	[	95% C.I.	]	X
budget~t	.0000153	.00000	4.74	0.000	9.0e-06	.000022		11586.4
bus*	-.1867808	.05634	-3.31	0.001	-.297214	-.076348		.107649
train*	.162439	.12431	1.31	0.191	-.081211	.406089		.11898
Pfrien~p	-.0031889	.04346	-0.07	0.942	-.088376	.081998		4.39093
Pfulli~o	-.0361335	.03734	-0.97	0.333	-.10932	.037053		4.31161
Pbag	-.0483668	.05154	-0.94	0.348	-.149392	.052659		4.53824
Pchang~e	.0537283	.0396	1.36	0.175	-.023893	.131349		4.26062
Pfood	.127912	.03677	3.48	0.001	.055846	.199978		4.11048
Pwifi	-.0708535	.03039	-2.33	0.020	-.130412	-.011295		3.75354
Pmovie	.0765426	.03391	2.26	0.024	.010073	.143012		3.82153
gender*	.0333072	.06154	0.54	0.588	-.087301	.153916		.21813
age	.0008915	.00219	0.41	0.684	-.003401	.005184		42.7365

(*) dy/dx is for discrete change of dummy variable from 0 to 1

Seeing from the marginal effects after logit model that budget positively affect the probability of choosing full-service airline such as if income increase by 100,000 baht, the probability of booking the flight will increase by 1.53%. The regression also show that although the airline provide wifi on flights, people still not considered wifi as the main factor to making decision, the result coming from a negatively affect. Both food quality and the variety of movie are positively affect the probability of choosing full-service airline because group of customers who choose full-service airline prefer to have good quality and taste of food and also enjoy the entertainment on flight. The

factor that is the largest effect is the bus, seeing from the negatively affect of 18.68% from the regression. This determines people who choose to travel with full-service airline are normally not to use the bus to transport in the domestic country. The reason behind because the group of customers who choosing full service airlines are prefer to consume high quality and convenience without considering the price so this group will choose to driving themselves or booking a flight instead of taking a public bus.

CONCLUSION

From the responses of the survey from the focus group, the study finds that budget, bus, food services, wifi services and movies entertainment are significant factors that affect to the customer decision making whether to choose full-service airline while the others left are not significant.

This study finds that Thai peoples view the decision to choose full-service as a normal good because when the income increases, the demand to book the flight increases so the probability of booking also increases. The bus seems to be the largest effect on the decision to choose full-service airline since group of customers who choose in full-service airline are not choosing the public bus to travel in domestic countries because this groups concern about high quality and convenience although the price is higher. However, the service mind and socio economics factor seem to be not significant factor. This shows that the customers don't mind about the service mind much comparing to the decision to go abroad.

To promote the full-service airline industry and induce more the customers to book the flights, they should consider increase the food services such as the quality, the variety and the taste of the foods. They can cooperate with the parties to decrease the costs and ticket fares to attract the customer to book the flights. Lastly I believe that if the Thai economy grow increasingly, the airline industry will become growing too due to higher incomes of peoples. We can expect to see customers booking the flight more.

LIMITATION AND FURTHER IMPROVEMENT

From the survey, I managed to collect the respondents from the age 18-65 but mostly there are 2 group of age which is the largest amount of number that is not various enough. Furthermore, 353 of respondents still small comparing to all number of Thai peoples so the study should include more respondents from more various age. The research should increase more number of respondents into the survey.

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APPENDIX 1

Online Questionnaire

No.	Questions	Explanation
1	ท่านเคยท่องเที่ยวในเอเชียมาก่อนหรือไม่	เคย, ไม่เคย
2	ปกติท่านใช้เวลากี่วันต่อทริปในเอเชีย	Open-End
3	ปกติท่านเดินทางในประเทศ เช่น ไปต่างจังหวัด โดยวิธีใด	รถยนต์, เครื่องบิน, รถขนส่งสาธารณะ, รถไฟ, อื่นๆ
4	ในระยะเวลา 1 ปีที่ผ่านมา ท่านเดินทางโดยเครื่องบินไปแล้วกี่ครั้ง	Open-End
5	เดินทางครั้งล่าสุดในเอเชีย ท่านเลือกโดยสารการบินอะไร	การบินไทย, นกแอร์, ไทยแอร์เอเชีย, ไทยไลอ้อนแอร์, นิวเจนแอร์เวย์, บางกอกแอร์เวย์, อื่นๆ
6	ราคาตัวเครื่องบิน ไป-กลับ ของการท่องเที่ยวในข้อ 5 คือเท่าไร (โดยประมาณ)	ต่ำกว่า 10,000, 10,001-20,000, 20,001-30,000, มากกว่า 30,001
7	จุดประสงค์ในการเดินทางของท่านคืออะไร	ท่องเที่ยว, ติดต่อธุรกิจ, การศึกษา, อื่นๆ
8	ท่านเดินทางไปกับใคร	คนเดียว, เพื่อน, ครอบครัว, คู่รัก, อื่นๆ
9	พนักงานต้อนรับมีการให้บริการที่เหมาะสม	1=ไม่สำคัญ 2=สำคัญน้อย 3=เฉยๆ 4=ค่อนข้างสำคัญ 5=สำคัญมาก

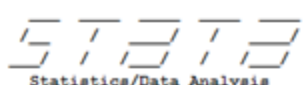
10	พนักงานต้อนรับสามารถให้ข้อมูลได้ครบถ้วน	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5= สำคัญมาก
11	สายการบินมีบริการโหลดกระเป๋า	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5= สำคัญมาก
12	สายการบินมีบริการเลื่อนวันเดินทาง	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5= สำคัญมาก
13	สายการบินมีบริการเลือกที่นั่งโดยสาร	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5= สำคัญมาก
14	สายการบินมีบริการอาหารบนเครื่อง	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5= สำคัญมาก
15	สายการบินมีบริการไวไฟบนเครื่องบิน	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5= สำคัญมาก
16	จำนวนจุดแวะพักในการเดินทาง	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5= สำคัญมาก
17	ภาพยนตร์บนเครื่องบินมีความหลากหลาย	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4=

		ค่อนข้างสำคัญ 5=สำคัญมาก
18	เพลงบนเครื่องบินมีความหลากหลาย	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5=สำคัญมาก
19	มีเกมส์ให้ความบันเทิงบนเครื่องบิน	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5=สำคัญมาก
20	มีบริการสันทนาการระหว่างที่นั่งโดยสาร ผ่านทีวี	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5=สำคัญมาก
21	อาหารบนเครื่องบินมีคุณภาพสูง	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5=สำคัญมาก
22	อาหารบนเครื่องบินมีรสชาติอร่อย	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5=สำคัญมาก
23	อาหารบนเครื่องบินมีความหลากหลาย	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5=สำคัญมาก
24	ที่นั่งโดยสารมีความกว้างเหมาะสมกับผู้โดยสาร	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5=

		สำคัญมาก
25	ระยะห่างระหว่างแถวของที่นั่งโดยสารมีความเหมาะสม	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5= สำคัญมาก
26	ที่นั่งโดยสารมีความสะดวกสบายแก่ผู้โดยสาร	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5= สำคัญมาก
27	ความสะอาดของที่นั่งโดยสาร	1=ไม่สำคัญ 2=สำคัญ น้อย 3=เฉยๆ 4= ค่อนข้างสำคัญ 5= สำคัญมาก
28	เพศ	ผู้ชาย ผู้หญิง
29	อายุ	จำนวนอายุ
30	การศึกษา	ต่ำกว่าปริญญาตรี, ปริญญาตรี, ปริญญา โท, สูงกว่าปริญญาโท, อื่นๆ
31	รายได้ต่อเดือน	ต่ำกว่า 10,000 10,001-15,000 15,000-20,000 20,000-30,000 สูงกว่า 30,000

No.	ในเวลาว่าง ท่านไปเดินเล่นในห้างเหล่านี้บ่อยแค่ไหน	ความถี่ในการไป			
		ไม่เคยไป เลย	นานๆไป ที	ไป บ่อยๆ	ไปบ่อย มาก
32	สยามพารากอน, เซ็นทรัลเวิร์ล, Emporium, Emquartier				
33	เซ็นทรัล หรือ เดอะมอลล์ สาขาอื่นๆนอกเหนือจากข้างบน				
34	เทสโก้, บิ๊กซี				

APPENDIX 2

 (R)
13.0 Copyright 1985-2013 StataCorp LP
Statistics/Data Analysis StataCorp
4905 Lakeway Drive
MP - Parallel Edition College Station, Texas 77845 USA
800-STATA-PC <http://www.stata.com>
979-696-4600 stata@stata.com
979-696-4601 (fax)

3-user 8-core Stata network perpetual license:
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Notes:

1. (/v# option or -set maxvar-) 5000 maximum variables

```
. import excel "C:\Users\jane\Desktop\EE489 Google survey (Responses)3.xlsx", sheet("Form Responses 1") firstrow
```

```
. ssc install outreg2  
checking outreg2 consistency and verifying not already installed...  
all files already exist and are up to date.
```

```
. tab airline, gen(air)
```

airline	Freq.	Percent	Cum.
0	98	27.76	27.76
1	37	10.48	38.24
2	17	4.82	43.06
3	131	37.11	80.17
4	21	5.95	86.12
6	49	13.88	100.00
Total	353	100.00	

```
.  
. rename air1 thai
```

```
.  
. rename air2 nok
```

```
.  
. rename air3 lionair
```

```
.  
. rename air4 airasia
```

```
.  
. rename air5 newgen
```

```
.  
. rename air6 airlines_others
```

```
. gen budget_est= 0
```

```
.  
. replace budget_est = 5000 if budget == 0  
(183 real changes made)
```

```
.  
. replace budget_est = 15000 if budget == 1  
(125 real changes made)
```

```
. replace budget_est = 25000 if budget == 2
(38 real changes made)
```

```
. replace budget_est = 50000 if budget == 3
(7 real changes made)
```

```
. tab purposeoftravel, gen(purpose)
```

purposeoftr avel	Freq.	Percent	Cum.
0	291	82.44	82.44
1	33	9.35	91.78
2	3	0.85	92.63
3	26	7.37	100.00
Total	353	100.00	

```
. rename purpose1 ptravel
```

```
. rename purpose2 pbusiness
```

```
. rename purpose3 peducation
```

```
. rename purpose4 purpose_others
```

```
. tab travelwith, gen(with)
```

travelwith	Freq.	Percent	Cum.
0	21	5.95	5.95
1	203	57.51	63.46
2	87	24.65	88.10
3	20	5.67	93.77
4	22	6.23	100.00
Total	353	100.00	

```
. rename with1 alone
```

```
. rename with2 family
```

```
. rename with3 couple
```

```
. rename with4 with_others
```

```
. tab edu, gen(edu)
```

edu	Freq.	Percent	Cum.
0	19	5.38	5.38
1	211	59.77	65.16
2	123	34.84	100.00
Total	353	100.00	

```

. rename edu1 below_bachelor

.
. rename edu2 bachelor

.
. rename edu3 master_degree

.
. rename edu4 higher_master_degree
variable edu4 not found
r(111);

. gen income_est = 0

.
. replace income_est = 5000 if income == 0
(27 real changes made)

.
. replace income_est = 15000 if income == 1
(36 real changes made)

.
. replace income_est = 25000 if income == 2
(40 real changes made)

.
. replace income_est = 50000 if income == 3
(250 real changes made)

. logit thai budget_est bus train Pfriendlyofpp Pfullinfo Pbag Pchangedate Pfood Pwifi Pmovie gender age

```

```

Iteration 0: log likelihood = -208.51421
Iteration 1: log likelihood = -173.62452
Iteration 2: log likelihood = -172.26603
Iteration 3: log likelihood = -172.26154
Iteration 4: log likelihood = -172.26154

```

Logistic regression	Number of obs	=	353
	LR chi2(12)	=	72.51
	Prob > chi2	=	0.0000
Log likelihood = -172.26154	Pseudo R2	=	0.1739

thai	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
budget_est	.0000847	.0000176	4.82	0.000	.0000503	.0001191
bus	-1.439497	.6511647	-2.21	0.027	-2.715757	-.163238
train	.7861122	.5436741	1.45	0.148	-.2794695	1.851694
Pfriendlyofpp	-.0176505	.2405783	-0.07	0.942	-.4891752	.4538743
Pfullinfo	-.1999952	.2070722	-0.97	0.334	-.6058492	.2058588
Pbag	-.2677054	.2850352	-0.94	0.348	-.826364	.2909533
Pchangedate	.2973805	.2197706	1.35	0.176	-.1333621	.728123
Pfood	.7079796	.2087338	3.39	0.001	.298869	1.11709
Pwifi	-.3921666	.1692753	-2.32	0.021	-.7239401	-.0603932
Pmovie	.4236554	.1890595	2.24	0.025	.0531056	.7942052
gender	.179613	.3235296	0.56	0.579	-.4544933	.8137193
age	.0049345	.0121378	0.41	0.684	-.0188551	.0287242
_cons	-4.510025	1.382857	-3.26	0.001	-7.220375	-1.799674

```

.
. mfx

```

Marginal effects after logit
y = Pr(thai) (predict)
= .23669764

variable	dy/dx	Std. Err.	z	P> z	[	95% C.I.	]	X
budget~t	.0000153	.00000	4.74	0.000	9.0e-06	.000022		11586.4
bus*	-.1867808	.05634	-3.31	0.001	-.297214	-.076348		.107649
train*	.162439	.12431	1.31	0.191	-.081211	.406089		.11898
Pfrien~p	-.0031889	.04346	-0.07	0.942	-.088376	.081998		4.39093
Pfulli~o	-.0361335	.03734	-0.97	0.333	-.10932	.037053		4.31161
Pbag	-.0483668	.05154	-0.94	0.348	-.149392	.052659		4.53824
Pchang~e	.0537283	.0396	1.36	0.175	-.023893	.131349		4.26062
Pfood	.127912	.03677	3.48	0.001	.055846	.199978		4.11048
Pwifi	-.0708535	.03039	-2.33	0.020	-.130412	-.011295		3.75354
Pmovie	.0765426	.03391	2.26	0.024	.010073	.143012		3.82153
gender*	.0333072	.06154	0.54	0.588	-.087301	.153916		.21813
age	.0008915	.00219	0.41	0.684	-.003401	.005184		42.7365

(*) dy/dx is for discrete change of dummy variable from 0 to 1

```

.
. outreg2 using result.docx, mfx
result.docx
dir : seeout

. predict prthai
(option pr assumed; Pr(thai))
(1 missing values generated)

.
.
. gen yhatthai = 0 if prthai<=0.5
(50 missing values generated)

.
.
.
. gen ythai = 1 if prthai>0.5
(304 missing values generated)

.
.
.
. tabulate ythai yhatthai
no observations

.
.
.
. estat clas

```

Logistic model for thai

Classified	True		Total
	D	~D	
+	34	15	49
-	64	240	304
Total	98	255	353

```

Classified + if predicted Pr(D) >= .5
True D defined as thai != 0

```

Sensitivity	Pr(+ D)	34.69%
Specificity	Pr(- ~D)	94.12%
Positive predictive value	Pr(D +)	69.39%
Negative predictive value	Pr(~D -)	78.95%

False + rate for true ~D	Pr(+ ~D)	5.88%
False - rate for true D	Pr(- D)	65.31%
False + rate for classified +	Pr(~D +)	30.61%
False - rate for classified -	Pr(D -)	21.05%

Correctly classified	77.62%
----------------------	--------

```

.
.
.
. est store logitthai

```