STRATEGIC ECONOMIC ASSESSMENT ON THE TOURISM PROMOTION PROGRAM IN THE EASTERN REGION OF THAILAND

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Abstract

The first part of this study was the application of 'Trip Frequency One Site Model' for tourism in each province of the Eastern Region of Thailand. This 'Single Site Model' used Individual Travel Cost Approach and most suitable regression results (Double Log Demand Functions) for Thai and foreign tourists. The second part was the application of 'General Logit Model for Multiple Sites'. This was to analyze the probability of reservation of accommodations, excursion and/or tour packages through internet. The results implied that, for the Eastern Region in 2011, the value of recreational benefits for both Thai and foreign tourists were far exceeding the total amount of the budget allocated for the tourism development promotion. Therefore, the government should invest in tourism promotion especially for Thai tourists who are traveling by cars and not for foreign tourists. The foreign tourists should be promoted in groups.

Key words :   Strategic Economic Assessment, Individual Travel Cost Approach

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1. Introduction

Nowadays, growth in many countries, especially developing ones, based on tourism. Tourism helped generating direct and indirect income and employment in its owned as well as other related sectors. Governments in many countries provided priorities to tourism development. This was mainly to attract larger quantity of interested tourists. They, however, faced with many issues and problems including negative tourism image, lack of tourism development funds, shortage of tourism related personnel, weak and unclear tourism development plan and lack of government capability in tourism development (Bukenya, 2002) In addition, they faced with difficulty arisen from difference of culture between the tourists and the local or rural people (Baimai et al., 2009).

There were many attraction factors that help in increasing the number of tourists and expand the length of tourist stay. These factors include carrying capacity (Wunder, 2000), tourism infrastructure, promotion of local tour guides, arts and culture show, sales of handicrafts (Tsaur et al., 2006), quality control on accommodations, restaurants and tour agencies, clear and detailed information on fee and service charges (Habibi & Rahim, 2009), attitudes and demographic information and general characteristics and quality of recreation areas that attract the interest of visitors as well as other amenities like clean air, clear water, forest and wildlife (Loomis, 1995)

The strategic tourism development is, therefore, the imperative tool for national tourism development plan. As the requirement of sustainable tourism development, government should simultaneously bring together many aspects like sustainable management of natural resources, through role of community, stakeholders in tourism (Tsaur et al., 2006) To make the ecotourism sustainable, there must be a tangible or intangible benefit for both tourists and the community. Also local government and the local people should benefit from economic benefit through the improvement of local environment such as benefit from employment, better living condition, poverty eradication and crime suppression. (Aniah et al., 2009) This study also touches on the strategic tourism development plans, Ministry of Tourism and Sports 2009-2012 and 1012-2016 implemented by Chonburi, Rayong, Chantaburi and Trat.

Natural resources such as beaches could be classified as a public good, which provides economic value through visitors' recreational benefits (Chen et al., 2004). To make a systematic

assessment, one should utilize individual information for each person involved. This approach based on people's choice or revealed preferences (Tisdell et al., 2008).

In particular, tourism benefit could be derived directly from use of recreational activities. (Chen et al., 2009). However, tourism development might also depend on quality of the local infrastructure as well as the cost of visiting, including travel time. (Loomis, 1995). That is to say, time of traveling and distant between the origin and destination is positively related with the cost and negatively with the demand for tourism by the tourists (Bell & Strand, 2003). Therefore, Travel Cost Method (TCM) could also be used to evaluate the benefit derived from tourism (Font, 2000). It is to note that there are both advantage and disadvantage for using the travel cost approach, namely, while we can incorporate several contributing factors into tourism, it will be complicated when we have to deal with multiple destination within the same trip. To deal with this aspect, we might employ the General Logit Model to cope with probability of visiting more than one destination in a trip.

2. The Models

The Travel Cost Model can be derived from utility maximization of visitors. The model can be represented as the following objective function and constraints:

Objective function:
$$Max\, U(X, V)$$

Constraints:

(1) Budget constraint $\implies$ $INC_w = r_w T_w = \overline{P}_x X + P_{visit}(V)$

(2) Time constraint $\implies$ $T_t = T_w + (TT + OST)V$

The above constraint functions can be rewritten as follows:

$$INC_T = r_w T_t = \overline{P}_x X + TC(V) \;;\;\; TC = P_{visit} + r_w(TT + OST)$$

Where Working income (INC_w) includes Wage rate (r_w),Working time (T_w),Prices of communities are fixed ($\overline{P}_x$), the consumed quantities of goods in marketing system (X), Actual payment for visiting the tourism site (P_{visit}), The number of visits to a site per year

(V), Total times of visitor (T_t), Travel time (TT),On-site time (OST), Total Travel cost (TC), and INC_T is Total incomes.

Individual Travel Cost Model (ITCM) of Trip Frequency One Site Model:
ITCM;

$$Q_i = V_i = f(DIST_i, TC_{i-DAY}, TRANS_i, Quarter_i, OBJ_i, ATTRI_i, SOECO_i, ATTRACT_i)$$

From the above equation, we can write the Double Log-linear Demand Function as follows:

$$
\begin{aligned}
\ln Tour\_Day = {} & \beta_0 + \beta_1 D\_Out\_Provin - \beta_2 \ln\_TC3\_DAY + \beta_3 Exp\_On\_Way + \beta_4 Exp\_Before + \beta_5 income \\
& + \beta_6 quarter - \beta_7 D\_Bus - \beta_8 D\_Car - \beta_9 reason8 + \beta_{10} Quality - \beta_{11} D\_Package + \beta_{12} Vehicle \\
& + \beta_{13} DISTANCE - \beta_{14} SIZE + \beta_{15} reason4 + \beta_{16} Infor\_Friend - \beta_{17} reason2 + \beta_{18} D\_Friend + \beta_{19} D\_OBJ1 \\
& + \beta_{20} Cleanl\_lv + \beta_{21} Inter\_Accom + \beta_{22} reason3 - \beta_{23} access\_Lv - \beta_{24} Infor\_TV + \beta_{25} N\_Trip - \beta_{26} Docimile7 \\
& - \beta_{27} D\_OCCU2 + \beta_{28} Food + \beta_{29} D\_Arrange - \beta_{30} Infor\_Agent - \beta_{31} Domicile5 + \beta_{32} D\_OCCU4 - \beta_{33} age \\
& + \beta_{34} D\_OBJ2 + \beta_{35} D\_OBJ8
\end{aligned}
$$

Table 1 Determinants of Days per trip of Thai visitors in Eastern region

No.	Factors	Meanings
1	lnTC3_DAY	Total Travel Cost per day with opportunity cost using 1/3 of the wage rate (฿/day)
2	Exp_On_Way	Expenditure on way to provinces in Eastern region (฿)
3	Exp_Before	Expenditure before the trip at provinces in Eastern region (฿)
4	D_Out_Provin	Tour outside provinces of Eastern region (Dummy: 0 = No, 1 = Yes)
5	Income	Visitors' income (฿/month)
6	D_Bus	Visit to provinces in Eastern region by bus (Dummy: 0 = No, 1 = Yes)
7	D_Car	Visit to provinces in Eastern region by car (Dummy: 0 = No, 1 = Yes)
8	reason8	Reason of visit to provinces in Eastern region is accessibility (Dummy: 0 = No, 1 = Yes)
9	DISTANCE	Visitors' distance from stay province to visited province (km.)
10	D_Package	Visitors' the purchase of packaged tour (Dummy: 0 = No, 1 = Yes)
11	SIZE	Tour group (persons)
12	Quarter	Quarter of trip (Quarter1, 2, 3, and 4)
13	Vehicle	Expenditure of local transportation (฿)
14	D_OBJ1	The main purpose of visiting is holiday / vacation (Dummy: 0 = No, 1 = Yes)
15	Quality	Quality of accommodation at provinces in Eastern region (Bad, Fair, Good)
16	Food	Food of accommodation at provinces in Eastern region (Bad, Fair, Good)
17	Infor_Friend	Source of tourism information is visitors' friends (Dummy: 0 = No, 1 = Yes)
18	reason2	Reason of visit to provinces in Eastern region is the security / safety (Dummy: 0 = No, 1 = Yes)

No.	Factors	Meanings
19	Cleanl_Lv	Evaluation of local transportation in aspect of cleanliness (Critical, Problem, Warning, Standard Levels)
20	D_Arrange	Tourism arrangement by tour agency (Dummy: 0 = No, 1 = Yes)
21	access_Lv	Evaluation of tourism sites in aspect of accessibility (Critical, Problem, Warning, Standard Levels)
22	Inter_Accom	Reservation of accommodation through internet (Dummy: 0 = No, 1 = Yes)
23	reason4	Reason of visit to provinces in Eastern region is good value of money (Dummy: 0 = No, 1 = Yes)
24	age	Visitors' age (years)
25	D_OCCU4	Visitors' occupation is unemployed (Dummy: 0 = No, 1 = Yes)
26	D_OBJ2	The main purpose of visiting is Convention / Conference / Exhibition (Dummy: 0 = No, 1 = Yes)
27	reason3	Reason of visit to provinces in Eastern region is the delicious food (Dummy: 0 = No, 1 = Yes)
28	D_Friend	The visitors were accompanied by their friends (Dummy: 0 = No, 1 = Yes)
29	Domicile7	Visitors' domicile in Northeastern region (Dummy: 0 = No, 1 = Yes)
30	Infor_TV	Source of tourism information from TV (Dummy: 0 = No, 1 = Yes)
31	N_Trip	The number of visitors' trip per year (trip/year)
32	Infor_Agent	Source of tourism information is tour agency (Dummy: 0 = No, 1 = Yes)
33	Domicile5	Visitors' domicile in Northern region (Dummy: 0 = No, 1 = Yes)
34	D_OBJ8	The main purpose of visiting is religious purpose (Dummy: 0 = No, 1 = Yes)
35	D_OCCU2	Visitors' occupation is Government and Military Personnel (Dummy: 0 = No, 1 = Yes)

Double Log-linear Demand Function of the foreign visitors in the Eastern Region can be written as follows.

Table 2 Definitions of factors influencing Days Length of Stay (Days per trip) of foreign visitors in the Eastern Region

No.	Factors	Meanings
1	lnTC1_DAY	Total Travel Cost per day without opportunity cost (฿/day)
2	D_Train	Visit to provinces in Eastern region by train (Dummy: 0 = No, 1 = Yes)
3	q6	Total visited provinces (provinces)
4	D_Car	Visit to provinces in Eastern region by car (Dummy: 0 = No, 1 = Yes)
5	Inter_Reserve	Reservation of tourism site through internet (Dummy: 0 = No, 1 = Yes)
6	income	Visitors' income (US$/year)
7	reason2	Reason of visit to provinces in Eastern region is the security / safety (Dummy: 0 = No, 1 = Yes)
8	Family	The visitors were accompanied by their family (Dummy: 0 = No, 1 = Yes)
9	Infor_Agent	Source of tourism information is tour agency (Dummy: 0 = No, 1 = Yes)

No.	Factors	Meanings
10	N_Trip	The number of visitors' trip per year (trip/year)
11	D_Asia	Visitors are in Asia region (Dummy: 0 = No, 1 = Yes)
12	SIZE	Tour group (persons)
13	hygiene_Lv	Evaluation of tourism sites in aspect of hygiene (Critical, Problem, Warning, Standard Levels)
14	Entrance_Fee	Expenditure of entrance fee / service fees (฿)
15	pollut_Lv	Evaluation of tourism sites in aspect of pollution (Critical, Problem, Warning, Standard Levels)
16	Infor_Others	Source of tourism information from the others (Dummy: 0 = No, 1 = Yes)
17	reason4	Reason of visit to provinces in Eastern region is the accessibility (Dummy: 0 = No, 1 = Yes)
18	reason9	Reason of visit to provinces in Eastern region is the traveling times (Dummy: 0 = No, 1 = Yes)
19	reason7	Reason of visit to provinces in Eastern region is good value of money (Dummy: 0 = No, 1 = Yes)
20	Inter_Accom	Reservation of accommodation through internet (Dummy: 0 = No, 1 = Yes)
21	Quarter	Quarter of trip (Quarter1, 2, 3, and 4)
22	Cost_Trans	Expenditure of local transportation (฿)
23	D_OBJ3	The main purpose of visiting is business (Dummy: 0 = No, 1 = Yes)
24	D_OBJ7	The main purpose of visiting is Incentive / Sponsored (Dummy: 0 = No, 1 = Yes)
25	reason5	Reason of visit to provinces in Eastern region is the festival (Dummy: 0 = No, 1 = Yes)
26	Shopping	Expenditure of shopping (฿)
27	D_OCCU5	Visitors' occupation is retire (Dummy: 0 = No, 1 = Yes)
28	Cleanl_Lv	Evaluation of local transportation in aspect of cleanliness (Critical, Problem, Warning, Standard Levels)
29	Inter_Trans	Reservation of transportation through internet (Dummy: 0 = No, 1 = Yes)
30	Infor_TV	Source of tourism information from TV (Dummy: 0 = No, 1 = Yes)
31	Friends	The visitors were accompanied by their friends (Dummy: 0 = No, 1 = Yes)
32	Accomod	Expenditure of accommodation (฿)
33	D_OCCU1	Visitors' occupation is Government and Military Personnel (Dummy: 0 = No, 1 = Yes)
34	N_Prov_in_Group	The number of tourism provinces in Eastern region (provinces)
35	reason10	Reason of visit to provinces in Eastern region is the others (Dummy: 0 = No, 1 = Yes)
36	D_OCCU2	Visitors' occupation is Agricultural Worker (Dummy: 0 = No, 1 = Yes)
37	D_America	Visitors are in America region (Dummy: 0 = No, 1 = Yes)
38	Food_Bever	Expenditure of food and beverage (฿)
39	D_SEX	Visitors' gender (Dummy: 0 = Female, 1 = Male)

As a result of consumer's resource allocation, the recreational value and the value of consumer surplus can be derived by the following equations.

$$Q_i \quad = \quad V_i \quad = \quad e^{\beta_0} \times TC\_DAY_{mi}^{\beta_2}$$

$$\therefore TC\_DAY_{mi} \quad = \quad \left[\frac{Q_i}{e^{\beta_0}} \right]^{\frac{1}{\beta_2}}$$

$$CS_i \quad = \quad \left[\int_{Q_{Min.}}^{Q_{Max.}} TC\_DAY \ dQ \right] - \left[TC\_DAY_{Max.} \times \left(Q_{Max.} - Q_{Min.} \right) \right]$$

Consumer Surplus (CS_i) of individual visitor's sample, i, can be calculated as Average Consumer Surplus / day per trip ($ACST$) of individual visitor's samples (฿ / visitor / day / trip) on tourism site, and then multiply by Total Visitors to tourism site in studying year 2009 (Visitors / year) as Recreational use value of tourism site in year 2009 (฿). Lastly, Recreational use value of tourism site in 2009 (RV_{2009}) will be transformed into Present Value of Recreation Value on tourism site in 2011 (RV_{2011}) by using Consumer Price Index of Quarter1 in year 2011 (CPI_{2011}) as result of Assumption: Recreational use values are the same in every year.

$$RV_{2011} \quad = \quad \left[\frac{RV_{2009}}{CPI_{2009}} \right] \times CPI_{2011}$$

The change in consumer surplus(ΔCS) can be derived from the situation with and without tourism promotion program.
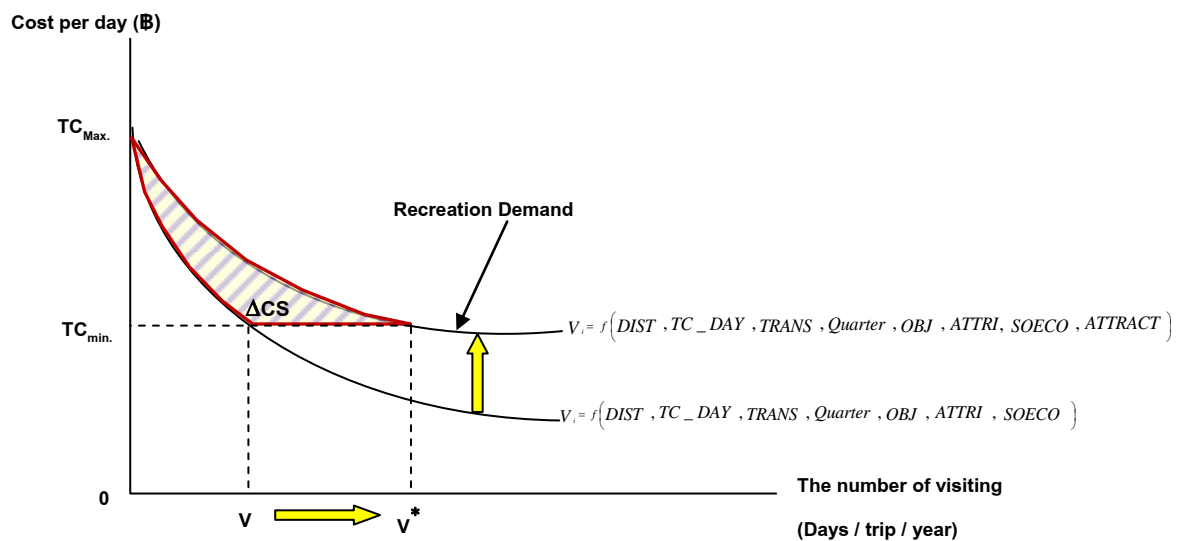

Figure 1. The Recreation Demand Curve and the change of Consumer Surplus after having Tourism Promotion Program.

The probability of visiting choice for 4,3,2 provinces will be analyzed with the General Logit Model which consists of McFadden Conditional Logit Model (1974) and the General Logit Model.

The probability for an individual i to choose the alternative j is given by Dragos & Veres (2007) The General Logit Model can be written as:

The General Logit Model:

$$P_{ij} = P(y_i = j) = \frac{\exp(x_{ij}b + x_i b_j)}{\sum_{k=1}^{m} \exp(x_{ik}b + x_i b_k)} \qquad j, k = 0, 1, 2, ..., m$$

$$P(g_j) = \frac{\exp(g_j)}{\sum_{k=1}^{m} \exp(g_k)}$$

Where y_{ij} represents the qualitative dependent variable for an individual i to choose the j alternatives of choice as visit to 4 destinations (provinces) in Eastern region ($j = 1$);visit to 3 destinations (provinces) in Eastern region ($j = 2$);visit to 2 destinations (provinces) in Eastern region ($j = 3$); visit to 1 destination (province) in Eastern region ($j = 4$ is Baseline Category), and x_{ik} represents the independent variable for an individual i of the k site attributes.

3. Results

From the secondary data collected in the year 2009, there were 12,352 Thai visitors and 7,717 foreign visitors. The data can be described in terms of mean, mode as preliminary statistical description, the regression results are also presented in terms of coefficients, elasticity values, the standard deviations of estimates, t-statistics and the significant level. The regression results are presented in the following table:

Table 3 Double Log Demand Function of Thai visitors in Eastern region

Model	Independent Variables	Mean	Mode	B or ε_D	Std. Error	t	Sig.
35	(Constant)			3.943	0.097	40.761	0.000
	D_Out_Provin	-	-	0.245	0.013	19.377	0.000
	ln_TC3_DAY			-0.499	0.012	-41.11	0.000
	Exp_On_Way	1,001-3,000 ฿	500-1,000 ฿	0.111	0.005	24.389	0.000
	Exp_Before	1,001-3,000 ฿	500-1,000 ฿	0.077	0.004	18.366	0.000
	income	10,001-15,000 ฿	10,001-15,000 ฿	0.053	0.004	11.951	0.000
	quarter	2.88	4	0.029	0.006	4.790	0.000
	D_Bus	-	-	-0.141	0.014	-9.856	0.000
	D_Car	✓	✓	-0.136	0.014	-9.444	0.000
	reason8	-	-	-0.106	0.014	-7.736	0.000
	Quality	Good	Good	0.042	0.016	2.605	0.009
	D_Package	-	-	-0.091	0.016	-5.652	0.000
	Vehicle	637.93 ฿	-	3.52E-05	0.000	6.005	0.000
	DISTANCE	261.95 km.	179 km.	0.00E+00	0.000	6.750	0.000
	SIZE	6.01 persons	5 persons	-3.00E-03	0.001	-5.857	0.000
	reason4	-	-	9.30E-02	0.032	2.931	0.003
	Infor_Friend	✓	✓	0.039	0.011	3.434	0.001
	reason2	-	-	-0.044	0.013	-3.420	0.001
	D_Friend	-	-	0.027	0.010	2.836	0.005
	D_OBJ1	✓	✓	0.076	0.019	3.968	0.000
	Cleanl_Lv	Critical	Critical	0.098	0.030	3.271	0.001
	Inter_Accom	-	-	0.048	0.016	3.010	0.003
	reason3	-	-	0.042	0.016	2.728	0.006
	access_Lv	Critical	Critical	-0.024	0.008	-3.030	0.002
	Infor_TV	-	-	-0.039	0.015	-2.629	0.009
	N_Trip	1.76	1	0.007	0.003	2.611	0.009
	Domicile7	-	-	-0.050	0.018	-2.824	0.005
	D_OCCU2	-	-	-0.025	0.014	-1.797	0.072
	Food	Good	Good	0.040	0.016	2.478	0.013
	D_Arrange	-	-	0.056	0.020	2.751	0.006
	Infor_Agent	-	-	-0.043	0.020	-2.196	0.028
	Domicile5	-	-	-0.042	0.018	-2.300	0.022
	D_OCCU4	-	-	0.098	0.034	2.865	0.004
	age	31.19 years	30 years	-0.002	0.001	-2.496	0.013
	D_OBJ2	-	-	0.064	0.029	2.200	0.028
	D_OBJ8	-	-	0.258	0.123	2.109	0.035

Dependent Variable: lnTour_Day

R^2 = 0.636 ; Adjusted R^2 = 0.632

F = 159.629 ; Sig. F = 0.000

Table 4 Double Log Demand Function of foreign visitors in Eastern region

Model	Independent Variables	Mean	Mode	B or ε_D	Std. Error	t	Sig.
39	(Constant)			5.647	0.113	49.949	0.000
	ln_tc1_day			-0.447	0.007	-61.802	0.000
	D_Trian	-	-	-0.612	0.025	-24.961	0.000
	q6	3.20 provinces	3 provinces	0.184	0.007	25.164	0.000
	Inter_Reserve	-	-	-0.154	0.016	-9.845	0.000
	D_Car	-	-	-0.270	0.024	-11.213	0.000
	reason2	-	-	-0.153	0.016	-9.722	0.000
	income	$ 20,000-39,999/year	$ 20,000-39,999/year	0.044	0.005	9.498	0.000
	Infor_Agent	-	-	-0.120	0.016	-7.617	0.000
	Family	-	-	-0.118	0.016	-7.310	0.000
	N_Trip	1.14 trip/year	1 trip/year	0.088	0.012	7.162	0.000
	D_Asia	-	-	-0.109	0.015	-7.142	0.000
	Infor_Others	-	-	-0.211	0.038	-5.546	0.000
	Inter_Accom	-	-	0.055	0.014	3.930	0.000
	reason7	-	-	0.064	0.013	4.815	0.000
	SIZE	3.71 persons	4 persons	0.020	0.003	6.522	0.000
	Entrance_Fee	516.74 ฿	-	-5.01E-05	0.000	-6.296	0.000
	Cost_Trans	643.85 ฿	-	2.83E-05	0.000	3.766	0.000
	reason9	-	-	-0.074	0.017	-4.337	0.000
	reason4	-	-	0.070	0.015	4.569	0.000
	D_OBJ7	-	-	0.466	0.120	3.894	0.000
	Inter_Trans	-	-	0.055	0.018	3.108	0.002
	D_OBJ3	-	-	0.143	0.037	3.882	0.000
	D_OCCU2	-	-	-0.081	0.031	-2.620	0.009
	Accomod	2,793.43 ฿	-	4.02E-06	0.000	2.931	0.003
	Cleanl_Lv	Critical	Critical	-0.147	0.045	-3.256	0.001
	Shopping	972.61 ฿	-	-1.39E-05	0.000	-3.592	0.000
	D_OCCU5	-	-	0.106	0.031	3.407	0.001
	reason5	-	-	0.067	0.019	3.495	0.000
	hygiene_Lv	Warning	Warning	-0.110	0.022	-4.913	0.000
	pollut_Lv	Warning	Warning	0.095	0.022	4.237	0.000
	D_America	-	-	-0.045	0.018	-2.539	0.011
	Infor_TV	-	-	0.043	0.016	2.778	0.005
	Quarter	3.06	4	-0.027	0.008	-3.227	0.001
	reason10	-	-	-0.182	0.069	-2.632	0.009
	D_OCCU1	-	-	0.043	0.016	2.640	0.008
	N_Prov_in_Group	1.17 provinces	1 province	-0.046	0.018	-2.603	0.009
	Friends	✓	✓	-0.037	0.016	-2.352	0.019
	Food_Bever	2,052.38 ฿	-	6.26E-06	0.000	2.151	0.032
	D_SEX	Male	Male	-0.025	0.012	-2.082	0.037

Dependent Variable:lnTour_Day

R^2 = 0.725   ; Adjusted R^2 = 0.723

F = 357.323 ; Sig. F = 0.000

While modes were used to represent the characteristics of the Thai and foreign visitors, means were used for the estimation of recreation values which differentiate the demand curves before and after the implementation of the tourism promotion program for the Eastern Region.

General Description: the visitors for Chonburi, Rayong, Chantaburi and Trat: Age of the majority is higher than 30 years of age, the information is acquired through friends. The purposes of visits are for tourism by traveling by cars and most of the visits are for a single destination. After the trip, Thai tourists expressed their high satisfaction with food and quality of accommodations while expressed their disapprovals on accessibility, cleanliness of local vehicles which need to be rapidly improved.

Most of the foreign tourists travel to the Region once a year and visit at least 3 provinces in groups of 4 persons with their friends. After the trip, they expressed their concern with cleanliness and pollution at the destinations as acceptable but need minor improvement. In addition, they expressed their disapproval of the cleanliness of the local vehicles just the same as Thai tourists.

From the regression analysis:

The Double Log Demand Function for Thai tourists indicated that the factor of most influential affecting the tourist length of stay (ln Tour_Day) is the total cost of traveling (ln_TC3_DAY) which includes the "opportunity cost" estimated at 1/3 of daily wages. The total cost is negatively related with the length of stay.

The second influential factor is the type of activities of temples visit (D_OBJ8) with positive relation with the length of stay.

The third influential factor is the type of vehicles the tourists traveling with, it was the traveling by buses which is negatively correlated with the length of stay.

The Double Log Demand Function for the foreign tourists indicated that the highest influential factor determining the length of stay (ln Tour_Day) is the use of train (D_Train). This factor is negatively correlated with the length of stay. This implies that the more the tourists use train the less will be visiting days as they will move on to other destinations

The second influential factor is the type of arrangement as incentive tour from the employer (D_OBJ7). This factor is positively related to the length of stay.

The third influential factor is the total cost of traveling excluding the opportunity cost. This factor is negatively correlated with the length of stay of the foreign tourists.

The derivation of recreational tourism value implied substantial higher benefit of the tourism than the promotion cost allocated to the budget for tourism development. (2.83 trillion baht versus 169 million baht, respectively).

It is noted that, as the tourism promotion program through internet took place, the recreation demand of Thai tourists shifted to the right whereas that of foreign tourists shifted to the left. Hence, the tourism promotion program through internet enhanced more of only Thai tourists.

The Approach of General Logit Model was employed to analyze the visitors in multiple sites model and the findings are shown in Tables 5 and 6.

Table 5 The General Logit Model for Thai visitors at provinces in Eastern region

Parameter Estimates

No. of provinces	Dependent Variable (No. of visited provinces in Eastern region)[a]	Thai visitors			
		B	Std. Error	Sig. Wald	Exp(B)
4 provinces (j=1)	*There is only one Thai respondent chosen 4 provinces in Eastern region.*				
3 provinces (j=2)	quarter	-0.870	0.412	0.035	0.419
	access_Lv	6.726	2.995	0.025	833.409
	Entertain	0.001	0.000	0.038	1.001
	[D_Out_Provin=0]	-2.82	0.65	0.000	0.060
	[D_Bus=0]	4.117	1.570	0.009	61.402
	[D_Car=0]	10.984	3.607	0.002	58906.496
	[D_Family=0]	-1.704	0.836	0.041	0.182
	[Inter_no=0]	-3.035	1.177	0.010	0.048
	[Inter_Accom=0]	-3.512	0.846	0.000	0.030
	[Inter_Package=0]	-2.386	0.958	0.013	0.092
	[Inter_Reserve=0]	-2.903	1.288	0.024	0.055
	[Domicile2=0]	-2.513	0.886	0.005	0.081
2 provinces (j=3)	quarter	0.231	0.098	0.018	1.260
	Exp_Before	-0.174	0.067	0.009	0.840
	Exp_On_Way	0.168	0.074	0.022	1.183
	N_Trip	0.070	0.034	0.042	1.072
	Accommod	0.000	0.000	0.001	1.000

No. of provinces	Dependent Variable	Thai visitors			
	(No. of visited provinces in Eastern region)[a]	B	Std. Error	Sig. Wald	Exp(B)
	Shopping	0.000	0.000	0.010	1.000
	Entertain	0.000	0.000	0.043	1.000
	Serv_Charge	0.000	0.000	0.000	1.000
	Miscellan	-0.001	0.000	0.000	0.999
	[D_OCCU6=0]	3.458	1.556	0.026	31.749
	[D_OCCU7=0]	1.995	0.975	0.041	7.350
	[Infor_Agent=0]	0.795	0.394	0.044	2.214
	[Infor_Internet=0]	1.010	0.184	0.000	2.746
	[D_Car=0]	1.146	0.278	0.000	3.147
	[D_Friend=0]	-1.113	0.267	0.000	0.328
	[D_Family=0]	-1.168	0.260	0.000	0.311
	[Inter_no=0]	-0.802	0.354	0.023	0.448
	[Inter_Accom=0]	-1.111	0.21	0.000	0.329
	[Inter_Package=0]	-1.019	0.332	0.002	0.361
	[Inter_Infor=0]	-1.296	0.322	0.000	0.274
	[Domicile1=0]	-0.644	0.271	0.018	0.525
	[Domicile2=0]	-0.854	0.286	0.003	0.426
	[Domicile3=0]	1.005	0.459	0.029	2.733

a. **The reference category** is: 1 visited province in Eastern region.

Table 6 The General Logit Model for foreign visitors at provinces in Eastern region

Parameter Estimates

No. of provinces	Dependent Variable	Foreign visitors			
	(No. of visited provinces in Eastern region)[a]	B	Std. Error	Sig. Wald	Exp(B)
4 provinces (j=1)	*There is only two foreign respondents chosen 4 provinces in Eastern region.*				
3 provinces (j=2)	Tour_Day	-0.357	0.135	0.008	0.700
	TC1_DAY	0.000	0.000	0.002	0.999
	Exp_Before	0.994	0.284	0.000	2.702
	Exp_On_Way	-2.928	0.621	0.000	0.053
	[D_OCCU8=0]	-2.808	1.083	0.010	0.060
	[Infor_Friend=0]	2.526	1.109	0.023	12.501
	[reason3=0]	-2.060	0.892	0.021	0.127
	[reason6=0]	-3.669	1.588	0.021	0.026
	[D_Trian=0]	3.861	1.832	0.035	47.499
	[Inter_Pack=0]	-5.413	1.262	0.000	0.004

| No. of provinces | Dependent Variable | Foreign visitors | | | |
| | (No. of visited provinces in Eastern region)[a] | | | | |
		B	Std. Error	Sig. Wald	Exp(B)
2 provinces (j=3)	income	-0.206	0.076	0.007	0.814
	Tour_Day	-0.06	0.015	0.000	0.942
	access_Lv	0.736	0.329	0.025	2.087
	Exp_Before	-0.091	0.036	0.012	0.913
	Exp_On_Way	-0.224	0.042	0.000	0.800
	Clothes	0.000	0.000	0.001	1.000
	Entrance_Fee	0.000	0.000	0.021	1.000
	[D_OCCU3=0]	-0.708	0.262	0.007	0.493
	[D_OCCU8=0]	-0.601	0.292	0.040	0.549
	[reason3=0]	-0.395	0.189	0.037	0.674
	[reason9=0]	0.514	0.226	0.023	1.673
	[D_Out_Provin=0]	-5.996	0.240	0.000	0.002
	[D_Trian=0]	0.759	0.327	0.020	2.137
	[D_Car=0]	0.934	0.314	0.003	2.545
	[Inter_no=0]	-0.571	0.279	0.041	0.565
	[Inter_Accom=0]	2.569	0.200	0.000	13.047
	[Inter_Pack=0]	-1.846	0.269	0.000	0.158
	[Inter_Infor=0]	0.632	0.224	0.005	1.881
	[Loner=0]	2.355	0.534	0.000	10.537
	[Friends=0]	2.957	0.456	0.000	19.240
	[Family=0]	2.507	0.450	0.000	12.262
	[Colleague=0]	1.814	0.532	0.001	6.137

a. **The reference category** is: 1 visited province in Eastern region.

Table 5 shows that [1], to Thai tourists who visited three provinces per trip, they preferred to travel on their own cars as it was more convenient to visit different tourist sites. To those who visited two provinces per trip, they were likely to be retirees or farmers and preferred to travel on their own cars.

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[1] The case of visiting four provinces per trip was not analyzed as there was only one sample of Thai visitors in the case.

Table 6 shows that [2], to foreign tourists who visited three provinces per trip, they preferred to travel by train and were likely to plan their trip and expense by gathering information from friends. To those who visited two provinces per trip, they were likely to travel with friends or family and booked their accommodation on internet.

4. Conclusion

There are two implications in this study. Firstly, for Academic purpose, it is important to differentiate between the Thai and foreign tourists who visit the Eastern region at different points in time and involve with different types of activities. This might imply the possibility of executing tourism price discrimination or promotion of tourism with different programs of activities.

Secondly, for policy recommendation, the government sector should work with the private sector in determining the policy, strategy and action plan to develop tourism sites and communities. It is suggested that the government improves the quality of public transportation, for example service and cleanliness on bus, and facilitates the access of visitors to tourism sites. It is also recommended that the government launches different tourism promotions to enhance more visitors all year round. The tourism promotions can be the fruit festivals and road show in countries with potential customers, like in China, Japan, South Korea, India and Russia. Promoting a MICE purpose in visiting the eastern region is another strategy to raise the number of visitors in off-peak period.

The limitation of this study is the use of the primary data collected from other study in 2009. This set of data might be out-of-date and not collected to answer some specific research questions, such as, the visitors' attention to visit several destinations in Eastern region under Tourism Promotion Program, and that the visitors do not differentiate the type of visit, such as, being a MICE arrangement or not.

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[2]   The case of visiting four provinces per trip was not analyzed as there were only two samples of foreign visitors in the case.

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