Profiling Tourist Expenditure on Street Food: A Study on Penang

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Abstract: Tourism has been one of the main contributing sectors in the development of Penang. Being a UNESCO World Heritage site, Penang is well known among tourists for its street food. This study aims to examine the factors that determine tourist expenditure on Penang Street Food. A survey was conducted among 506 tourists at the Penang International Airport and the Tobit model was used to identify the empirical relationship. Based on the findings, tourists in the 60 years-above age group, repeat visitor, purpose, length of stay, travel companion and travel planning showed significant relationships with tourist expenditures. Overall, the findings could be pointers to help policy makers in generating effective policies by targeting the right group to develop Penang’s tourism sector in future.

Keywords: tourist expenditure; Penang street food; tobit


Introduction

Tourism is the second largest contributor to the Penang economy and nationally it plays a significant role in the promotion and expansion of Malaysia’s tourism industry (OECD, 2011). According to the National Transformation Programme (NTP)’s annual report 2015, tourism is regarded as the third highest contributor to Malaysia’s Gross National Income (NTP, 2015). Penang’s tourism sector has seen an increase in the number of international tourists flying into Penang International Airport which grew at an annual growth rate of seven per cent from year 2007 to 2014 (George, 2015). This shows that Penang is a favourable vacation spot not only for the local tourists but also for the international tourists.

Moreover, with the recognition as a UNESCO World Heritage site since the year 2008, Penang has become a popular destination for tourists, particularly for its street food. Hence, street food is frequently used as a marketing tool by the state government to attract more tourists to visit Penang. Given that food and beverages is one of the top three areas for tourist’s spending in Malaysia, apart from shopping and accommodation (Tourism Malaysia, 2016), the Penang State Government should capitalise on the popularity of Penang Street Food to

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generate more tourism revenue. As noted by Jalis, Che, and Markwell (2014), the utilisation of local cuisine as part of a destination image and diversity of products and experiences may help to strengthen the identity and competitiveness of a tourist destination. Also, the promotion of remarkable local food may represent the identity of a community; strengthen the local image and regional identity, thereby helping to promote local culture and heritage (Zainal, Zali, & Kassim, 2010). With numerous recognitions given by renowned authorities, Penang gained the title of Best Street Food in Asia and World Top 10 Yummiest food (Tourism Penang, 2011). Undoubtedly, Penang has proven itself internationally as having the best street food in the region.

Due to the multiracial ethnicity in Penang, street food appears in different unique styles and selections originating from the older generations of Malay, Chinese, Indian and Baba Nyonya. According to Quan and Wang (2004), a large portion of food consumption in tourism can be seen as the supporting experience for tourists to complete or realize their main purpose of travel. Food as the supporting experience refers to the role of food in meeting the basic needs of the body and to get a sense of comfort of home when they travel. Since tourist expenditure on food are influenced by several factors, this study is reviewed according to the variables examined which include socio-demographic, economic and trip-related variables (Agarwal & Yochum, 1999; Cai, 1998; Jang, et al., 2004; Wang, et al., 2006; Wang & Davidson, 2010; Thrane & Farstad, 2011). However, a slowdown in the Malaysian economy recently has resulted in the decline of tourist spending. Penang has to rely on its street food in order to attract food connoisseurs by implementing food and cultural events to cater for the needs of tourists from all over the world. Given the growing recognition of Penang Street Food and the paucity of studies on the demand for Penang Street Food, this study aims to provide an understanding on factors that determine tourist expenditure on Penang Street Food. The findings will help policy makers to target the right group for future tourism events.

Literature Review

Given that there are limited recent studies found specifically on food expenditure by tourists during vacation, this study will draw insights from studies related to tourist expenditures and consumer expenditure on food. In terms of age, generally, younger tourists tend to spend more on food while travelling because they are willing to try food with a local taste compared to older tourists. The older tourists are considered more conservative in trying new food. This result is supported by Wang et al. (2006) where their findings revealed that expenditure declines with age. Mok and Iverson’s (2000) findings also revealed that the younger groups were heavy spenders. Other than that, repeat visitors will most likely visit the hawker centre that provides them the best street food experience because satisfaction leads to repeated action (Kozak, 2001). As suggested by Wang (2004), repeat visitors tend to spend more than first time visitors.

Travel purpose is also an important determinant. A study by Jang et al. (2002) on the travel characteristics among the Japanese outbound pleasure travellers found out that tourists who travel while on honeymoon are big spenders. According to the results, 76 per cent of honeymooners were heavy spenders compared to those who travel for other purpose such as business. This data is also supported by Mok and Iverson (2000) who found that people who travel for honeymoon purposes tend to spend more.

The number of days of a trip appears to show mixed results on expenditures. Many researchers supported the findings that as tourists increase the number of days of a trip, the amount of expenditure during the trip will also increase (Agarwal and Yochum, 1999; Downward and Lumsdon, 2000; Jang et al., 2004; Nicolau and Más (2005); Mok and Iverson, 2000; Wang et al., 2006). However, Thrane and Farstad (2011) found that generally the relationship between a positive length of stay and its consequential expenditures becomes weaker for trips of longer duration.

Jang et al. (2002) suggested that the type of travel companion is a significant factor in expenditure behaviour. The study revealed that travelling with spouse/boyfriend/girlfriend or parents is associated with significantly larger travel budgets compared to those travelling alone. In another study by Jang et al. (2004), Japanese travellers with companions tend to spend more than those who travel alone. Jang et al. (2004) also argued that total spending was not affected by the number of adults in the group, but rather by whether the traveller had companions or not.
As for travel planning, Perez and Juaneda (2000) adopted different times of the booking to determine tourist’s travel planning. The booking closest to the travelling time or last minute reservations shows a higher tourist outlay.

Methodology

The Tobit model is used to identify the empirical relationship between tourist expenditures on food with its determinants. The Tobit model is a suitable approach because Tobin (1958) assumes that there is a latent variable underlying the observed dependent variable where both will be equal when the latent variable is greater than zero but the observed variable is zero when the latent variable is negative. It was developed specifically for situations where the dependent variable is truncated at zero or some other cut off. Therefore, Tobit estimates are said to be consistent and asymptotically normal (Amemiya, 1973).

The dependent variable in this model is represented by the fraction of i-th tourist expenditures on Penang Street Food with their total expenditures on food during the trip in percent while the corresponding independent variables include various characteristics in the socio-demographic, economic and trip-related variables in question. The equation is written as follows:

\[ Y_i^* = X_i'\beta + u_i, \quad i = 1, 2, \ldots, n \]

\[ Y_i = Y_i^* \quad \text{if } Y_i^* > 0, \quad (1) \]

\[ Y_i = 0 \quad \text{if } Y_i^* \leq 0 \]

Where \( Y_i \) = observed a dependent variable; \( Y_i^* \) = a latent variable; \( X_i' \) = k-dimensional vector of a known variable as listed in Table 1; \( \beta \) = k-dimensional vector of an unknown parameters; \( u_i \) = stochastic disturbance term of the regression assumed to be \( N (0, \sigma^2) \). The likelihood function for this model is:

\[
L (\theta) = \prod_0 \left[ 1 - \Phi \left( \frac{X_i' \beta}{s} \right) \right] \prod_i \sigma^{-1} \phi \left( \frac{Y_i - X_i' \beta}{s} \right) \Pi_1 \Pi_0 \]

Where \( \Pi_0 \) denotes the product over values of \( i \) such that \( Y_i^* \leq 0 \); \( \Pi_1 \) denotes the product over values of \( i \) such that \( Y_i^* > 0 \); \( \theta = (\beta', \sigma^2) \); and \( \Phi \) and \( \phi \) are the cumulative distribution function and probability density function of the standard normal variable (Greene, 2003).

Data and Descriptive Statistics

This study uses primary data collected from 506 respondents at the Penang International Airport. The data was collected from July to August 2013. From the total sample of 506 respondents, 248 were local tourists and 258 were foreign tourists. Questionnaires were distributed to tourists aged 21 years old and above. This age group of tourists were considered to be those who can make independent financial and expenditure decisions. Tourists who are not aware of Penang Street Food were excluded from the survey.

Overall, from the total sample, the majority of the respondents have tried Penang Street Food (91%). Analysis on those who have tried Penang Street Food indicated that 51.5 per cent are local tourists aged below 40 years old (58.9%) with an income below US$1500 (34.8%). They are repeat visitors (72.8%) who travel for leisure purpose (77%), perceive the price as reasonable (59.6%), travelling alone (30.9%) and prepare by reading travel reviews before the trip (47.4%).

Results and Discussions

The results of the Tobit model are summarized in Table 1. The dependent variable in this model is identified as Expenditures (EXP) which is the fraction of total expenditures on Penang Street Food over total expenditures.
on food during a tourist’s trip expressed in percentage.

Table 1. Tobit results

| Variable | Coefficients (β) | Z-statistics | $\frac{\partial P(Y > 0)}{\partial X_i}$ | $\frac{\partial E(Y | Y > 0)}{\partial X_i}$ | $\frac{\partial EY}{\partial X_i}$ |
|----------|------------------|--------------|------------------------------------------|------------------------------------------|-------------------------------|
| Age:     |                  |              |                                          |                                          |                               |
| Above 60 years | -12.216***   | -1.71        | -10.506 (6.366)                         | -8.000 (4.984)                         | -0.077 (0.038)               |
| Repeat visitor | 7.674***      | 1.80         | 6.760 (3.807)                           | 5.242 (2.981)                          | 0.043 (0.023)               |
| Purpose:  |                  |              |                                          |                                          |                               |
| Leisure  | 10.953*         | 2.60         | 9.575 (3.752)                           | 7.383 (2.937)                          | 0.064 (0.022)               |
| Days     | 0.916***        | 1.76         | 0.816 (0.464)                           | 0.639 (0.364)                          | 0.005 (0.003)               |
| Group:   |                  |              |                                          |                                          |                               |
| Alone    | 7.955***        | 1.84         | 7.146 (3.841)                           | 5.647 (3.007)                          | 0.040 (0.023)               |
| Friends  | 12.321*         | 2.77         | 11.178 (3.968)                          | 8.940 (3.107)                          | 0.058 (0.024)               |
| Review   | 10.152*         | 3.02         | 9.063 (2.994)                           | 7.121 (2.344)                          | 0.053 (0.018)               |
| Prob> chi 2 | 0.0000        |              |                                          |                                          |                               |
| Likelihood Ratio (LR) | 68.67      |              |                                          |                                          |                               |
| Log Likelihood | -2340.404    |              |                                          |                                          |                               |

Source: Fieldwork survey
Notes: Significant at * 1% level; ** 5% level; *** 10% level (Asymptotic standard errors in parentheses)

From Table 1, the estimated coefficient (β) (Column 1) and the probability for z-statistics (Column 2) are shown respectively. Column 3 explained the marginal effects of each explanatory variable on the changes in the probability of the dependent variable. The marginal effects on the expected value for observations above the limit are presented in Column 4. Column 5 indicated the marginal effects on the expected value for all observations.

Comparing the extent of food expenditure on Penang Street Food with age groups, it is found that a significant difference only exists in the age group of above 60 years old. Older tourists tend to spend less as compared to younger tourists. This result is supported by Mok and Iverson (2000) where younger tourists are heavier spenders. Further, the older age group is regarded as more health conscious and careful with food hygiene. As indicated by Karim et al. (2012), street food is usually perceived by the public as cheap food that is not nutritious.

Repeat visitor is a positive significant factor in the extent of food expenditure on Penang Street Food. A repeat visitor increases the likelihood of spending on Penang Street Food by 6.760% compared to a first time visitor (column 3). Similarly, among tourists who have tried Penang Street Food, the extent of food expenditure on Penang Street Food for a repeat visitor is higher (5.242%) in comparison to a first time visitor (column 4). This implies that repeat visitors will incur higher spending on Penang Street Food. The result is also supported by Wang (2004).

Other than that, a tourist who travels for leisure purposes is 9.575% more likely to spend on Penang Street Food compared to those travelling for other purposes (column 3). Among those who have tried Penang Street
Food, a tourist who travels for leisure will incur a higher (7.383%) fraction of food expenditure on Penang Street Food (column 4). Hence, a tourist who travels for leisure will spend more on food because their time flexibility enables them to search and locate street food.

As length of stay increases, the extent of street food expenditure also increases (Downward & Lumsdon, 2000; Wang, et. al., 2006). A tourist who stays an additional day increases the likelihood of spending on Penang Street Food by 0.816% (column 3). Among tourists who have tried Penang Street Food, an additional day of stay will increase the fraction of food expenditure on Penang Street Food by 0.639% (column 4). Therefore, when tourists prolonged their length of stay in Penang, they will have more time to try the street food which will lead to greater spending.

The type of travel companion showed a significant positive relationship with the fraction of food expenditure on Penang Street Food. A tourist who travels alone is 7.146% more likely to spend on street food compared to those travelling with family (column 3). Among those who have tried Penang Street Food, when a tourist travels alone, the fraction of expenditure on Penang Street Food is (5.647%) higher than those travelling with family (column 4).

Similarly, when a tourist is travelling with friends, the likelihood of spending on street food is higher by 11.178% compared to those travelling with family (column 3). On top of that, among tourists who have tried Penang Street Food, those travelling with friends will incur a higher (8.940%) fraction of expenditure on Penang Street Food than those travelling with family (column 4). The results indicated that tourists travelling alone and with friends will result in a higher fraction of spending on Penang Street Food than those travelling with family. This is due to cost sharing which is commonly practiced among family members but less among tourists travelling alone and with friends.

Lastly, tourists who browse travel review prior to their trip also tend to incur a higher fraction of expenditure on Penang Street Food. Tourists who check reviews before their trip are 9.063% more likely to spend on street food compared to those without any travel planning (column 3). Similarly, among those who have tried Penang Street Food, tourist who makes prior travel planning will have a higher (7.121%) fraction of food expenditure on street food compared to those who did not make prior travel planning (column 4). This shows that tourists who are more prepared with travel information will tend to spend more on street food.

**Conclusion**

The Tobit results revealed six variables with a significant relationship to the extent of expenditure on street food. In summary, tourists who possess a greater intensity of spending on street food in Penang are repeat visitors travelling alone or with friends for leisure purposes and usually peruse travel reviews before the trip. They also tend to spend more on street food when they prolong their stay in Penang. This paper has attempted to add to a better understanding on the factors determining tourist expenditure on Penang Street Food. However, there is still room for improvement for future research. In terms of sample size, future research should further extend the number of respondents to obtain a better representation of the tourist population. It is also recommended that tourist travelling by bus or cruise can be target respondents for the survey as they might have different opinions on Penang Street food. Hence, more empirical research is needed in this area to promote Penang as the City of Gastronomy preferred by not only its local citizens but also tourists from around the world.

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