

**IJEM** International Journal of Economics and Management

Journal homepage: http://www.econ.upm.edu.my/ijem

# A Cohort Comparison of the Travel Preferences of Future and Golden Seniors in Penang Island

# BADARUDDIN MOHAMED, SHIDA IRWANA OMAR<sup>\*</sup> AND KAI XIN TAY

Universiti Sains Malaysia, Penang, Malaysia

# ABSTRACT

Studies have been carried out with regard to seniors in many different tourism contexts over the past three decades. With an aging population, a large number of 'future' seniors are beginning to join the senior travel market. However, it is not known whether their travel preferences differ from those of today's seniors or what types of information sources and accommodations future seniors prefer. Using the Penang Tourist Survey (PTS), this study applied the binomial logit model to pursue a comparative assessment of the travel preferences of golden (over age 50) seniors and future seniors in Penang, Malaysia. The findings showed a significant difference in travel preferences between the groups. The comparison allows the industry to anticipate any necessary changes in marketing strategies to better serve future senior travel customers.

JEL Classification: C1, I31, Z32

Keywords: Senior, travel pattern, logit model, Penang Island

### **INTRODUCTION**

According to the United Nations' statistical projection analysis, the number of persons aged 60 and above in the year 2050 will match that of persons aged between 0-15. More precisely, based on the international database (IDB) of the U.S. Census Bureau (2010), in 2005, the global population of seniors aged over 60 was approximately 671 million, and this figure grew to 900 million (about 34%) in 2015. The older population is expected to reach one billion in 2025 (U.S. Census Bureau 2010). "*The ageing index will triple over the next half century*" (United Nations 2000, 16). This increasing population of elders may generate compelling demands for changes in the way a society shares its resources among the generations (United Nations 2000). It will certainly change travel preferences in the global tourist market.

\*Corresponding author: Email : E-mail: treless\_89@hotmail.com

It is not surprising that more and more researchers are studying the tourism market in the context of seniors, including their motivation to travel (Hsu, Cai, and Wong 2007; Jang et al. 2009; Kim, Weaver, and Mccleary 1996; Muller and O'Cass 2001), the constraints (Fleischer and Pizam 2002; Lee 2005), market segmentation (Shoemaker 2000; Chen and Shoemaker 2014; Vincent and De Los Santos 1990; Littrell, Paige, and Song 2004), preferences for information sources (Kim, Weaver, and Mccleary 1996), travel expenditure (Jang and Ham 2009), and length of stay (Alén et al. 2014). Studies of senior travelers have been conducted in many countries, such as China (Feng et al. 2013; Lu et al. 2016), the United States (Chen and Shoemaker 2014), the Netherlands (Van Den Berg, Arentze, and Timmermans 2011), Russia (Nikitina and Vorontsova 2015), and others.

In addition, there are many models, either analytical (Alén et al. 2014; Jang et al. 2009; Jang and Ham 2009) or theoretical (Hsu, Cai, and Wong 2007), for the senior travel market. However, most of the research has focused merely on whether or why the residents travel and has not surveyed the senior tourists' travel preferences with regard to specific tourism destinations. For example, Chen and Shoemaker (2014) and Shoemaker (1989, 2000) examined how the mature travel market (i.e. the residents) had changed over three ten-year periods in the state of Pennsylvania. Studies were conducted on residents in the United States (Jang and Ham 2009), Israeli seniors (Fleischer and Pizam 2002), and Spanish seniors (Alén, Domínguez, and Losada 2002; Alén et al. 2014). In Asia, Huang and Tsai (2003), Jang et al. (2009), and Jang and Wu (2006) examined Taiwanese residents' travel motivations; similar research has been done in other countries, such as among Korean residents (Lee 2005) and Beijing and Shanghai seniors in China (Hsu, Cai, and Wong 2007). Esichaikul (2012) examined the motives, behavior and requirements of European seniors who traveled to Thailand.

In contrast, relatively few studies have been carried out on senior tourists from different backgrounds in a particular tourist destination. Given that designated attributes work uniquely on the preferences of senior travelers, this insight should be of interest to tourism marketers. Although the previous studies mentioned above have delivered a tremendous amount of information about the travel preferences of seniors, this knowledge cannot directly assist destination marketers to capture the specific interests of senior travelers. This study posits that, rather than evaluating a group of seniors from a particular city or country, the travel preferences of seniors from different backgrounds to a particular place are more relevant and useful in marketing planning. Another problem is that while the preference of seniors for leisure travel has grown with the advancement of the society (Hsu, Cai, and Wong 2007), the older travel market is still being treated as a uniform group from generation to generation (Lehto et al. 2008). The gerontological research clearly indicates that older consumers are different with significant cohort effects (Moschis 1996).

Lehto et al. (2008) stated that it would be unwise to presume that people of similar chronological age and lifestyles would always have similar travel preferences from generation to generation. Moreover, Hsu et al. (2007) explained that the drastic societal transformation in China has had a unique cohort effect. This occurrence is applicable not only to China but all over the world. Each cohort has experienced different historical events. For example, the Silent Generation (born between 1925-1945) witnessed World War II and the Civil Rights Movement

(Strauss and Howe 1991). The Baby Boomers generation was born just after World War II, a time that saw a dramatic increase in birth rates worldwide over a period of 14 years (Strauss and Howe 1991). Many in this cohort, also known as Hippies, created their own communities and embraced the way of revolution (e.g. listened to psychedelic rock) and experimented with drugs to explore alternative states of consciousness.

Numerous studies have been carried out to compare both cohorts in different contexts, such as their buying habits (Cunningham and Kaufman-Scarborough 2002; Moschis et al. 2000), shopping habits (Worsley, Wang, and Hunter 2010), and the tourism experiences they seek (Lehto et al. 2008). Likewise, Lohmann and Danielsson (2001) criticized as misleading the assumption of similarity between the travel behavior of today's seniors and those of future ones. Tourist demands and travel preferences are not necessarily determined by age, but by generation (Lohmann and Danielsson 2001). Hence, this study examined two different age cohorts. The first cohort was the golden seniors aged over 50 years. The second cohort was the future seniors who were born between 1965 and 1974 (40-49 years old).

This study examined the travel preferences of the two different age generations with regard to traveling in Penang Island, Malaysia, a UNESCO World Heritage City. A binomial logit model was used to analyze their choices of information sources, types of accommodation, and finally, activities engagement. The logit model, created by Cox (1958), was developed to analyze the choice behavior of populations from distributions of individual decision rules (McFadden 1974a). At the same time, McFadden suggested that this model could be used to advance the behavioral theory of travel demand, and presented practical statistical procedures for calibration and forecasting (McFadden 1974b). Reece (2004) applied the binomial logit analysis to explain the choices between making trips to South Carolina and elsewhere. Lehto et al. (2008) used a two-logistic regression test to determine how well the Baby Boomers and the Silent Generation could be distinguished by the experiences they sought, and the actual experiences in which they were engaged. This paper specifically used the binomial logit model to elaborate on the choices of golden seniors versus those of future seniors with regard to travel preferences in Penang Island.

#### **Defining Future and Golden Seniors**

The term 'senior' is defined vaguely in previous literature, and there is no uniform group with the same chronological age that is known as seniors. The age groups of senior persons have been defined differently in different studies. For instance, Reece (2004), Chen and Shoemaker (2014) and Shoemaker (1989, 2000) studied seniors aged 55 and above, while Prideaux, Wei, and Ruys (2001) named those aged 60 and above as seniors, and Jang et al. (2009) defined seniors in Taiwan as those aged 65 or above. Across numerous research records, researchers have found that in several comparative studies of senior and non-senior travelers, the age of 50 demarcated the two cohorts for comparison (Bentley, Macky, and Edwards 2006; Leventhal 1997; Blazey 1987).

On the other hand, the word 'golden' is understood to signify something that is noble and valuable, and often has been used to describe the respected seniors (Blaine 2013). It may also be used to refer to a 50 year time span, e.g. golden anniversary, golden jubilee. The future seniors are those people who are about to become seniors in a few years' time. The decision to omit those aged 30-39 from this study was based on the fact that the current 40 to 49-year-olds represent the Baby Busters in Generation X (i.e. a group that is unique enough to warrant being treated separately from the Baby Boomers). Therefore, the current research defined the golden seniors as those aged 50 and above, and the future seniors as travelers aged 40-49.

### **Senior Market Travel Pattern**

The senior group is an important segment of travel and tourism markets, as has been recognized by both researchers (Chen and Shoemaker 2014; Jang, Bai, Hu, and Wu 2009; Jang and Ham 2009; Lehto, Jang, Achana, and O'Leary 2008) and practitioners (e.g. elder hostels and the American Association of Retired Persons [AARP] Travel Service). Dramatic improvements in healthcare, life expectancy (Esichaikul 2012), higher disposable income (Jang et al. 2009), and more discretionary time in the retirement years (Jang and Ham 2009; Lehto et al. 2008; Shoemaker 2000) have allowed seniors to be engaged actively in leisure activities and have contributed to the emergence of a new generation of mature travelers.

In planning for marketing strategy purposes, it is crucial for marketers to understand the preferences of senior travelers (Boksberg and Laesser 2008; Chen and Shoemaker 2014; Lee 2005; Vincent and De Los Santos 1990). According to Alén et al. (2002) and Kelly, Haider, Williams, and Englund (2007), variables, such as the sources of information used, types of accommodation, number of people travelling, trip preparation time, travel duration, means of transport used and types of trips, help to determine the travel preferences of the elderly market. These variables are useful for understanding their needs, preferences and desires, the key criteria marketers use to discern how to respond to their needs and thereby, to satisfy the seniors. This study employed three variables: information sources used, types of accommodation (Alén et al. 2002), and activities engagement (Lehto et al. 2008).

# (1) Sources of Information

The information source used is a recurrent variable of choice in studies dealing with senior travel preferences at the destination. Older seniors read extensively, watch television, and listen to the radio; therefore, the press (TV) and radio are effective means of reaching senior citizen tourists (Alén, Domínguez, and Losada 2002). It has been noted that older seniors obtain their travel information mostly from the mass media (Shim, Gehrt, and Siek 2005) and the print media (Horneman et al. 2002; Ryan 1995; Kim, Weaver, and Mccleary 1996), while younger seniors use the internet or social media (Beldona 2005; Chen 2009). Information by word-of-mouth through friends, neighbors and families is also an important source of information for younger people in making travel arrangements (Tongren 1988; Gheno 2015; Alén, Domínguez, and Losada 2002). However, Shim et al. (2005) found that chronological age is related negatively to the recommendations of friends; rather, seniors are more likely to use tourism offices or travel agencies (Gheno 2015). Therefore, two hypotheses were proposed:

- H1 (a): There are cohort differences between golden senior travelers and future senior travelers in their sources of information.
- H1(b): There is intra-cohort tourism information that is preferred by both golden senior travelers and future senior travelers.

# (2) Types of Accommodation

The majority of seniors stay at hotels (Batra 2009; Lawson 1991; Grimm et al. 2009; Kozak and Rimmington 2000), followed by holiday apartments, homes of friends and family members, and, at a lesser rate, country house lodges (Bai et al. 1999). According to the European Commission (2014), seniors aged above 65 are more likely to stay in hotels or bed and breakfasts (63%) than those who travel with children (61%). The second highest ranked type of accommodation is staying at friends' or family members' homes, with family travelers (43%) outnumbering senior travelers (41%). The type of accommodation often is related to the length of stay, and numerous researchers have hypothesized that this variable determines the length of stay (Martínez-Garcia and Raya 2008; Alén et al. 2014; Lawson 1991). However, little attention has been given to the intra-cohort preferences between golden seniors and future seniors in making choices concerning accommodation. Hence, the following hypotheses were formulated:

- H2 (a): There are cohort differences between golden senior travelers and future senior travelers in their choice of the type of accommodation.
- **H2 (b):** There are intra-cohort travel preferences with regard to the type of accommodation within each cohort.

# *(3) Activities Engagement*

Seniors normally engage in tourism activities such as shopping, organized day trips, visits to historical sites, sports events, visits to casinos, sightseeing in the city, and visiting museums (Bai et al. 2001; Batra 2009; Lawson 1991; Littrell, Paige, and Song 2004). The activities that are organized at the tourist destination could determine the length of stay (Alén et al. 2014; Lawson 1991), and also could be positively related to the number of tourist arrivals. It has been discovered that older seniors are more likely to attend classical concerts, theatres, or casinos, engage in bird watching, and wander around small towns and villages, whereas younger seniors prefer hiking, horseback riding, rock and roll concerts, and bowling (Lehto et al. 2008). In other words, the younger seniors who tend to choose activities that are relaxing, calming, and more contemplative (Lehto et al. 2008). Consequently, the following hypotheses have been proposed:

- H3 (a): There are cohort differences between golden senior travelers and future senior travelers in activities engagement.
- H3 (b): There are intra-cohort travel preferences with regard to the activities engaged in by each cohort.

### METHODOLOGY

# Sampling and Data Collection

The data source for this study was the 2014 Penang Tourist Survey (PTS) conducted by the Sustainable Tourism Research Cluster, and the information gathered by Penang Global Tourism on tourists who had spent a minimum of one night in Penang. The stratified random sampling technique was employed and the survey was conducted among 4170 tourists (2061 international and 2109 domestic tourists) between March and December 2014. Based on the data we collected through PTS 2014, for the golden senior cohort, there were 263 respondents: 60 Malaysian seniors and 203 from other countries. For the future senior cohort, 441 respondents: 190 Malaysian seniors and 251 from other countries. The main limitation of this paper that should be addressed in future studies is that this study focused merely on the aging cohort comparison without differentiating the respondents' nationalities (either international or local), although worldwide cultural differences may play a significant role in choosing the source of information, type of accommodation and tourists' activities.

The survey was conducted by self-completion at selected tourist hotspots in Penang (e.g. Batu Ferringhi, Penang Hill, etc.) and at the gateways to Penang (e.g. the airport, ferry jetty, etc.). Information for a total of 704 tourists aged 40 and above was retrieved from samples in the PTS 2014 and was used in the analysis for this study. A generational cohort variable was created based on the age of the respondents. The golden seniors cohort was composed of 263 respondents aged 50 and above, and the second generational cohort variables chosen for this study were types of information source, types of accommodation and choice of tourism activities on Penang Island.

### **Data Analysis**

The data were first analyzed by using chi-square tests to explore the single-dimensional relationship between the two generational cohorts with respect to their choices among nine information sources, six types of accommodation, and nine tourism activities. In the next stage, the binomial logit model was used to examine the intra-cohort travel preferences of golden seniors and future seniors. The model proposed by McFadden (1974a, 1974b) was adapted, whereby the choice of yes (coded 1) and no (coded 2) were altered to the choice of golden seniors (coded 1) and future seniors (coded 2). McFadden's model relies on the assumption that the travel preferences of golden seniors are a non-random function, V1 of the travel characteristics plus a random error term:

 $T (senior = 1) = V_1 + e_1$ 

On the other hand, the travel preferences of the future seniors depend on the travel characteristics and a random error term:

$$T(\text{senior}=0) = V_0 + e_0$$

As a result, the travel preferences relate more to the golden seniors than to the future seniors if, and only if:

$$T (\text{senior} = 1) > T (\text{senior} = 0)$$
  
Or  
$$V_1 - V_0 > e_0 - e_1$$

In the case of the distributions of e0 and e, the probability that senior = 1 is

P (senior = 1) = exp (V<sub>1</sub>)/[exp(V<sub>1</sub>)+exp(V<sub>0</sub>)].

However, if case 1 is unable to estimate the absolute levels of the parameters of V1, it will be able to estimate the travel preference parameters of the golden seniors relative to those of the future seniors. This is known as the log oddsi of occurrence on golden seniors over future seniors, as expressed by the function:

$$\mathbf{V}_1 - \mathbf{V}_0 = \mathbf{b}_0 + \sum \mathbf{b}_j \mathbf{x}_j.$$

Then,

$$P (\text{senior} = 1) = \exp(b_0 + \sum b_j x_j + V_0) / [\exp(b_0 + \sum b_j x_j + V_0) + \exp(V_0)] \text{ --with parameters } V_1$$
  
Or  
$$P (\text{senior} = 1) = \exp(b_0 + \sum b_j x_j) / [\exp(b_0 + \sum b_j x_j) + 1] \text{ ---without parameters } V_1$$

Then, dividing the numerator and denominator by  $\exp(b_0 + \sum b_i x_i)$  yields the logit model as:

 $P(\text{senior} = 1) = 1/[1 + \exp(-(b_0 + \sum b_j x_j))] \dots (1)$ 

Therefore, the logit model in equation (1) shows the probability of the intra-cohort travel preference choices, where the travel preference variable xj includes the information sources, types of accommodation used, and activities engagement. This logit equation was used to run the logistic regression analysis in SPSS software. The Hosmer-Lemeshow test was used for the goodness of fit test. Additionally, the vector of the coefficient bj was estimated by the maximum likelihood. For measuring the goodness of fit of the equation, McFadden (1974, p. 121) suggested the use of the likelihood ratio index:

$$1-L_{UR}/L_R,$$

where LUR is the unrestricted vector of the log-likelihood function at the maximum likelihood estimate of the parameters bj, and LR is the value of the likelihood function when all the parameters are restricted to zero (Reece 2004).

# Findings

Terroral Dev Commence	N/ 10	Chi-square						
Travel Preferences	N(df)	X2	p-value					
Information Source								
Internet/ Social media	704(1)	2.979	0.084					
Friends/Relatives/ Words of mouth	704(1)	0.490	0.115					
Past experience	704(1)	0.345	0.557					
Printed media/ Magazine	704(1)	6.372	0.012*					
TV/ Radio	704(1)	2.007	0.157					
Expo/ Exhibition/ Tourism fair	704(1)	4.800	0.028*					
Travel agency/ Tour company	704(1)	0.001	0.980					
National government tourist office	704(1)	1.291	0.256					
In-flight information	704(1)	0.471	0.492					
Accommodation Type								
Hotel/Resort	698(1)	0.064	0.801					
Budget hotel/ Inn/ Chalet/ Guest house	698(1)	1.234	0.267					
Bungalow/ Villa	698(1)	4.293	0.038*					
Serviced apartment	698(1)	0.660	0.416					
Friend or relative's house	698(1)	0.033	0.857					
Homestay program in villages	698(1)	5.974	0.015*					
Activities Engage	ement							
Experiencing local food	691(4)	3.292	0.510					
Sightseeing in the city	693(4)	1.083	0.897					
Visiting historical sites	685(4)	5.904	0.206					
Visiting museum/ Art gallery	687(4)	14.33	0.006**					
Attending traditional cultural performance/ Concert/ Theatre	689(4)	10.346	0.035*					
Visiting national park/ Hiking/ Trekking	687(4)	32.356	0.000**					
Enjoying water sport/ Swimming/ Sunbathing	694(4)	14.689	0.005**					
Enjoying theme park (Escape)	693(4)	12.944	0.012*					
Shopping	694(4)	10.605	0.031*					
Enjoying night life	694(4)	8.571	0.073					
Health treatments	694(4)	4.855	0.302					

#### Table 1 Chi-square Test for Travel Preference of Golden seniors and Future seniors

p < 0.05, p < 0.01

The chi-square test results of the travel preferences of both cohorts - golden seniors and future seniors - are presented in Table 1. The results showed that both cohorts preferred the same two sources of information, namely 'Print media/Magazines' and 'Expos/ Exhibitions/ Tourism fairs'. The results partially rejected hypothesis 1 (a), which states: There are cohort

differences between golden senior travelers and future senior travelers in their sources of information. It also was found that golden seniors and future seniors preferred the same two types of accommodation, namely 'Bungalows/Villas' and 'Homestay programs in villages'. The findings indicated that there were not many cohort differences between golden senior travelers and future senior travelers in their choice of accommodation. Therefore, hypothesis 2 (a) was partially rejected.

Among the 11 activities that were examined, the chi-square analysis revealed that only about half of the specific travel activities were preferred by both these two cohorts. They included 'Visiting museums/art galleries', 'Attending traditional cultural performances/ concerts/theatres', 'Visiting national parks/hiking/trekking', 'Enjoying water sports/swimming/ sunbathing', 'Enjoying theme parks', and 'Shopping'. Again, the analysis accepted hypothesis 3 (a) as there were cohort differences between the golden senior travelers and the future senior travelers with regards to their participation in activities.

Because of the relative weakness in the statistical power of the chi-square test as a nonparametric statistic, the robust logistic regression analysis was selected as a more understandable technique for this study. The logistic regression analysis results are presented in Table 2. The first column of Table 2 shows the coefficient bj of equation (1), the standard errors associated with the coefficients, the Wald statistic or Wald chi-square value together with the 2-tailed p-value, and the odds ratio or exponential of the coefficients.

Travel Pattern	$\frac{Coefficient}{b_j}$	Standard error	Wald statistic	P-value	Odd ratio			
Information Source								
Internet/social media	005	.188	.001	.978	.995			
Friends/relatives/words of mouth	048	.177	.073	.788	.953			
Past experience	.032	.183	.031	.861	1.032			
Printed media/magazine	600	.294	4.163	.041	.549			
TV/ Radio	.278	.405	.471	.492	1.320			
Expo/exhibition/tourism fair	668	.400	2.782	.095	.513			
Travel agency/tour company	.144	.318	.204	.651	1.155			
National government tourist office	137	.530	.067	.795	.872			
In-flight information	.111	.651	.029	.865	1.117			
Accommodation Type								
Hotel/resort	.085	.299	.080	.777	1.088			
Budget hotel/inn/chalet/guest house	.073	.305	.056	.812	1.075			
Bungalow/villa	499	.502	.986	.321	.607			
Serviced apartment	203	.353	.329	.567	.817			
Friend or relative's house	082	.348	.056	.813	.921			
Homestay program in villages	2.212	.763	8.392	.004	9.131			

 Table 2 Logistic Regression Test for Travel Preference of Golden Seniors and Future Seniors

Table 2 (Cont. )       Activities Engagement							
Experiencing local food	.060	.126	.226	.635	1.062		
Sightseeing in the city	.149	.137	1.182	.277	1.161		
Visiting historical sites	069	.123	.313	.576	.934		
Visiting museum/art gallery	125	.118	1.114	.291	.883		
Attending traditional cultural performance/concert/theatre	.204	.111	3.378	.066	1.226		
Visiting national park/hiking/ trekking	069	.108	.410	.522	.933		
Enjoying water sport/swimming/ sunbathing	046	.094	.235	.628	.955		
Enjoying theme park (Escape)	049	.100	.238	.626	.952		
Shopping	088	.083	1.120	.290	.915		
Enjoying night life	075	.077	.965	.326	.927		
Health treatments	.005	.079	.004	.951	1.005		
Constant	242	.677	.128	.720	.785		
Hosmer & Lemeshow							
Chi-square (df)	4.794 (8)						
<i>p</i> -value	0.779						
LUR	838.783						
LR	872.794						
$l - L_{UR}/L_R$	0.039						

The fourth column shows the p-value for these parameters (Table 2). One source of information, 'Print media/magazines', and one type of accommodation, 'Homestay programs in villages', were found to be significant to the predictive ability of the model. The p-value of 'Print media or magazines' was 0.04. The odds ratio obtained for this variable (0.549) was less than 1. This indicated that the more seniors used the print media, the less likely they were to be golden seniors. It was observed that homestay programs in villages was significant, with a p-value of 0.00, and the odds of the seniors who stayed in homestays being golden seniors was 9.12 times higher than for seniors who did not stay in homestays, all other factors being equal (see also Pallant (2010), p. 175-178, for further explanation on the *p*-value of the binomial logit model analysis).

In assessing the model fit, two statistical tests for the significance of the binomial logit model were conducted, and the results are presented in Table 2. The Hosman-Lemeshow statistic of overall fit indicated that there was no significant difference between the actual and predicted classifications, where the *p*-value > 0.05 [0.794]. The likelihood ratio index measure of the goodness of fit of the estimated equation was 0.038 [near to zero]. These two statistics provided good support for the logit model.

Hypotheses H1 (b), H2 (b) and H3 (b) are referred to as the binomial logit model analyses in Table 2. Both golden senior travelers and future senior travelers preferred tourism information,

travel patterns, and tourism activities. The logit model accepted these hypotheses. The  $\beta$  coefficient and the odds ratio were used to illustrate these hypotheses. For information sources, the future seniors were more likely to obtain the information from 'Internet/social media', 'Friends/relatives/word-of-mouth', 'Print media/magazines', 'Expos/exhibitions/tourism fairs', and 'National government tourist offices', whereas the golden seniors had much higher odds of obtaining the information from 'Past experiences', 'TV/radio', and 'Travel agencies/tour companies', and 'In-flight information'.

For the types of accommodation used, 'Bungalows/villas', 'Serviced apartments', and 'Friends or relatives' houses' were preferred by the younger aged cohort, while the golden cohort was much more likely to stay in 'Hotels/resorts', 'Budget hotels/inns/chalets/guest houses', and 'Homestay programs in the villages'. The last hypothesis was concerning activities engaged in, with the future seniors being much more likely to participate in 'Visiting historical sites', 'Visiting museums/art galleries', 'Visiting national parks/hiking/trekking', 'Enjoying water sports/swimming/sunbathing', 'Enjoying theme parks (Escape)', 'Shopping', and 'Enjoying the night life'. On the other hand, golden seniors were more likely to join in 'Experiencing the local food', 'Sightseeing in the city', 'Attending traditional cultural performances/concerts/ theatres', and 'Health treatments'. This cohort tended to choose activities that were more relaxing, contemplative and tranquil.

### DISCUSSIONS AND CONCLUSIONS

This study showed that the tourism industry's stereotype of golden seniors and future seniors as a uniform market is misleading. The travel preferences are not necessarily determined by age, but by generation (Lohmann and Danielsson 2001) or cohorts between the future seniors (aged 40-49) and golden seniors (aged 50 and above). The Penang Tourist Survey (PTS) data was used to understand the travel preferences of these two cohorts in Penang Island, Malaysia. Two analyses, namely the chi-square test and the logistic regression analysis, were used to respond to the hypotheses that were proposed and presented in the early part of this article. Out of the six hypotheses that were proposed, H1 (a) and H2 (a) were partially rejected, while the other four hypotheses H1(b), H2 (b), and H3 (a) and (b) were accepted. Although two hypothesis 3 (a) was partially accepteded because it was only found that there was no differences between the cohorts for five variables of activities engagement. Three hypotheses, H1 (b), H2 (b) and H3 (b), were accepted by the binomial logit model test.

To answer the first hypothesis, both the golden seniors and future seniors were asked to tick their source(s) of information concerning Penang Island. According to the chi-square analysis, only two out of the nine information sources were found to be significantly different between the two cohorts. The findings confirmed the results of the study by Chen (2009). Although a number of previous studies discovered differences in preferences with regard to the use of travel information sources between the younger seniors and older seniors (Kuo and Chen 2009; Beldona 2005; Alén, Domínguez, and Losada 2002; Kim, Weaver, and Mccleary

1996), the research was different from the present study, which focused on future seniors and golden seniors.

The binomial logit analysis showed a cohort comparison between the golden seniors and the future seniors. The social media, word-of-mouth, print media, tourism fairs and tourist information offices were the sources of information normally used by future seniors, while past experiences, the mass media (e.g. TV/radio), travel agencies, and in-flight information were more likely to be preferred by golden seniors. Since the print media and tourism fairs were found to be significantly different between golden seniors and future seniors, and these two variables tended to fall into the future seniors' preferred use of information sources, this study suggests that tourism marketers should focus on these two sources of information in order to promote the attractions in Penang more effectively to future seniors.

The second hypothesis was tested to understand the travel preferences of future seniors and golden seniors with regard to the types of accommodation. It was discovered that preference for bungalows or villas versus homestay programs were significantly different between golden seniors and future seniors, with the former variable tending to be the preference of future seniors and the latter variable being favored by golden seniors with regard to type of accommodation. Certainly, this result can be predictive because most golden seniors are retired and limited in terms of financial resources (Fleischer and Pizam 2002; Jang and Ham 2009; Lee 2005). Hsu et al. (2007) posited that when it comes to their personal financial condition, Chinese seniors are more dependent on their family for financial support and responsibility. The study of Latiff and Ng (2015) found accommodation needs to be sustained to satisfy the golden senior as well as the future senior market.

Future seniors were more likely to participate in visiting museums and energetic activities (e.g. hiking, water sports, theme parks, and shopping). The potential cohort exhibited a preference for more fun-loving and physically challenging activities (Raymond 2000). This finding coincides with the results of Lehto et al. (2008) and concurs with a study by Raymond (2000) which emphasized that the generation of Boomers/younger seniors wanted to travel and have fun, while the older seniors were more likely to engage in 'peaceful' travel activities, such as cruises and tours (Javalgi, Thomas, and Rao 1992). The observation by Javalgi et al. was also affirmed in this present study as golden seniors favored 'relaxing' activities such as attending traditional cultural performances, experiencing local food, and sightseeing in the city.

Another point that needs to be highlighted is the fact that golden seniors were more concerned about 'Health treatments', which comes as no surprise since the inevitable decline of health or physical ability is a consequence of aging that is universally shared. In addition, Blazey (1987) called attention to the health status because it is critical for seniors to be motivated to travel, and poor health is one of the main constraints on travel (Dellaert, Ettema, and Lindh 1998; Fleischer and Pizam 2002). Hsu et al. (2007) also posited that the availability of health care in their country of destination was one of the key motivations for Chinese seniors to travel. The findings can be a guideline for local accommodation suppliers and travel marketers to target the future market segment whilst not neglecting the travel preferences of the present seniors' market.

#### REFERENCE

- Alén, Elisa, Trinidad Domínguez, and Nieves Losada (2002), "New Opportunities for the Tourism Market : Senior Tourism and Accessible Tourism", Visions for Global Tourism Industry-Creating and Sustaining Competitive Strategies, pp. 140–66.
- Alén, Elisa, Juan Luis Nicolau, Nieves Losada, and Trinidad Domínguez (2014), "Determinant Factors of Senior Tourists' Length of Stay", *Annals of Tourism Research*, No. 49, pp. 19–32, doi:10.1016/j. annals.2014.08.002.
- Bai, Billy, Shawn Soocheong Jang, Liping a. Cai, and Joseph T. O'leary (2001), "Determinants of Travel Mode Choice of Senior Travelers to the United States", *Journal of Hospitality & Leisure Marketing*, Vol. 8 No.3-4, pp. 147–68, doi:10.1300/J150v08n03.
- Bai, Billy, Smith, W., Liping a. Cai, and Joseph T. O'Leary (1999), "Senior Sensitive Segments: Looking at Travel Behavior", In *The Practice of Graduate Research in Hospitality and Tourism*, edited by Kaye Sung Chon, pp. 75–89, New York, The Haworth Press, Inc.
- Batra, Adarsh (2009), "Senior Pleasure Tourists: Examination of Their Demography, Travel Experience, and Travel Behavior Upon Visiting the Bangkok Metropolis", *International Journal of Hospitality & Tourism Administration*, Vol. 10 No. 3, pp. 197–212, doi:10.1080/15256480903088105.
- Beldona, S. (2005), "Cohort Analysis of Online Travel Information Search Behavior: 1995-2000", Journal of Travel Research, Vol. 44 No. 2, pp. 135–42, doi:10.1177/0047287505278995.
- Bentley, Tim, Keith Macky, and Jo Edwards (2006), "Injuries to New Zealanders Participating in Adventure Tourism and Adventure Sports: An Analysis of Accident Compensation Corporation (ACC) Claims", New Zealand Medical Journal, Vol. 119, pp. 1247.
- Berg, Pauline van den, Theo Arentze, and Harry Timmermans (2011), "Estimating Social Travel Demand of Senior Citizens in the Netherlands", *Journal of Transport Geography*, Vol. 19 No. 2, Elsevier Ltd, pp. 323–31. doi:10.1016/j.jtrangeo.2010.03.018.
- Blaine, Bruce Evan (2013), *Understanding the Psychology of Diversity*, Thousand Oaks, California, Sage Publication.
- Blazey, M. a. (1987), "The Differences Between Participants and Non-Participants in a Senior Travel Program", *Journal of Travel Research*, Vol. 26 No. 1, pp. 7–12. doi:10.1177/004728758702600102.
- Boksberg, P. and Christian Laesser (2008), "Segmenting the Senior Travel Market By Means of Travel Motivation-Insights From a Mature Market Switzerland", *Cauthe Conference*, pp. 1–13.
- Chen, H.W.J. (2009), "Baby Boomers' and Seniors' Domestic Travel Motivations: An Examination of Citizens in Tainan, Taiwan", University of Waterloo.
- Chen, Sandy, C., and Stowe Shoemaker (2014), "Age and Cohort Effects: The American Senior Tourism Market", Annals of Tourism Research, Vol. 48, Elsevier Ltd, pp. 58–75, doi:10.1016/j. annals.2014.05.007.
- Cox, D. R. (1958), "The Regression Analysis of Binary Sequences." Journal of the Royal Statistical Society, Vol. 20 No. 2, pp. 215–42.
- Cunningham, Peggy, and Carol Kaufman-Scarborough (2002), "The Maturing Marketplace: Buying Habits of Baby Boomers and Their Parents", *Journal of the Academy of Marketing Science*, Vol. 30 No. 1, pp. 89–90.

- Dellaert, B.G.C., Ettema, D.F., and Lindh, C. (1998), "Multi-Faceted Tourist Travel Decisions: A Constraint-Based Conceptual Framework to Describe Tourists' Sequential Choices of Travel Components", *Tourism Management*, Vol. 19 No. 4, pp. 313–20.
- Esichaikul, Ranee (2012), "Travel Motivations, Behavior and Requirements of European Senior Tourists to Thailand", *Revistade Turismoy Patrimonio Cultural*, Vol. 10 No. 2, Special Issue 2012, Vol. 10, pp. 47–58.
- European Commission (2014), Economic Impact And Travel Patterns Of Accessible Tourism In Europe – Final Report.
- Feng, Jianxi, Martin Dijst, Bart Wissink, and Jan Prillwitz (2013), "The Impacts of Household Structure on the Travel Behaviour of Seniors and Young Parents in China", *Journal of Transport Geography*, Vol. 30, Elsevier Ltd, pp. 117–26, doi:10.1016/j.jtrangeo.2013.03.008.
- Fleischer, Aliza, and Abraham Pizam (2002), "Tourism Constraints among Israeli Seniors", Annals of Tourism Research, Vol. 29 No. 1, pp. 106–23, doi:10.1016/S0160-7383(01)00026-3.
- Gheno, Ilenia (2015), Report on Senior Tourists Needs and Demands, Europe.
- Grimm, Bente, Martin Lohmann, Karsten Heinsohn, Claudia Richter, and Daniel Metzler. (2009), *The Impact of Demographic Change on Tourism and Conclusions for Tourism Policy, Interfaces.*
- Horneman, L., Carter, R. W., Wei, S., and Ruys, H. (2002), "Profiling the Senior Traveler: An Australian Perspective", *Journal of Travel Research*, doi:10.1177/004728750204100104.
- Hsu, C. H C, Liping a. Cai, and Wong, K. K F (2007), "A Model of Senior Tourism Motivations-Anecdotes from Beijing and Shanghai", *Tourism Management*, Vol. 28 No. 5, pp. 1262–73, doi:10.1016/j. tourman.2006.09.015.
- Huang, Leo, and Hsien Tang Tsai (2003), "The Study of Senior Traveler Behavior in Taiwan", *Tourism Management*, Vol. 24 No. 5, pp. 561–74, doi:10.1016/S0261-5177(03)00008-6.
- Jang, S. C., and Wu,C. M. E. (2006) "Seniors' Travel Motivation and the Influential Factors: An Examination of Taiwanese Seniors", *Tourism Management*, Vol. 27 No. 2, pp. 306–16 doi:10.1016/j. tourman.2004.11.006.
- Jang, S. C., Bai, B., Hu, C. and Wu, C.-M. E. (2009), "Affect, Travel Motivation, and Travel Intention: A Senior Market", *Journal of Hospitality & Tourism Research*, Vol. 33 No. 1, pp. 51–73, doi:10.1177/1096348008329666.
- Jang, S., and Sunny Ham (2009), "A Double-Hurdle Analysis of Travel Expenditure: Baby Boomer Seniors versus Older Seniors", *Tourism Management* Vol. 30 No. 3, Elsevier Ltd, pp. 372–80, doi:10.1016/j.tourman.2008.08.005.
- Javalgi, R. G., Thomas, E. G. and Rao,S.R. (1992), "Consumer Behavior in the U.S. Pleasure Travel Marketplace: An Analysis of Senior and Nonsenior Travelers", *Journal of Travel Research*, Vol. 31 No. 2, pp. 14–19, doi:10.1177/004728759203100203.
- Kelly, Joe, Wolfgang Haider, Peter W. Williams, and Krista Englund (2007), "Stated Preferences of Tourists for Eco-Efficient Destination Planning Options", *Tourism Management*, Vol. 28 No. 2, pp. 377–90, doi:10.1016/j.tourman.2006.04.015.
- Kim, Youngtae, Pamela Weaver, and Ken Mccleary (1996), "A Structural Equation Model: The Relationship between Travel Motivation and Information Sources in the Senior Travel Market", Vol. 3 No. 1, pp. 55–66.

- Kozak, M., and Rimmington, M. (2000), "Tourist Satisfaction with Mallorca, Spain, as an Off-Season Holiday Destination", *Journal of Travel Research*, Vol. 38 No. 3, pp. 260–69, doi:10.1177/004728750003800308.
- Kuo, N.W., and Chen, P. H. (2009), "Quantifying Energy Use, Carbon Dioxide Emission, and Other Environmental Loads from Island Tourism Based on a Life Cycle Assessment Approach", *Journal* of Cleaner Production, Vol. 17 No. 15, pp. 1324–30.
- Latiff, Khairunnisak, and Siew Imm Ng. (2015), "The Impact of Tourism Service Quality on Satisfaction", International Journal of Economics and Management, Vol. 9 (S), pp. 67–94.
- Lawson, R. (1991), "Patterns Of Tourist Expenditure And Types Of Vacation Across The Family Life Cycle", Journal of Travel Research, Vol. 29 No. 4, pp. 12–18, doi:10.1177/004728759102900403.
- Lee, S. H. (2005), "Understanding Attitudes towards Leisure Travel and the Constraints Faced by Senior Koreans", *Journal Of Vacation Marketing*, Vol. 11 No. 3, pp. 249–63, doi:10.1177/1356766705055716.
- Lehto, X. Y., Jang, S., Achana F. T., and O'Leary, J. T. (2008), "Exploring Tourism Experience Sought: A Cohort Comparison of Baby Boomers and the Silent Generation", *Journal of Vacation Marketing*, Vol. 14 No.3, pp. 237–52, doi:10.1177/1356766708090585.
- Leventhal, Richard, C. (1997), "Aging Consumers and Their Effects on the Marketplace", Journal of Consumer Marketing, Vol. 14 No. 4, pp. 276–81. doi:10.1108/07363769710188527.
- Littrell, M. a., Paige, R. C. and Song, K. (2004), "Senior Travellers: Tourism Activities and Shopping Behaviours", *Journal of Vacation Marketing*, Vol. 10 No. 4, pp. 62-348, doi:10.1177/135676670401000406.
- Lohmann, M., and Danielsson, J. (2001), "Predicting Travel Patterns of Senior Citizens: How the Past May Provide a Key to the Future", *Journal of Vacation Marketing*, Vol. 7 No. 4, pp. 66-357, doi:10.1177/135676670100700405.
- Lu, Jiaying, Kam Hung, Lili Wang, Michael A. Schuett, and Liang Hu (2016), "Do Perceptions of Time Affect Outbound-Travel Motivations and Intention? An Investigation among Chinese Seniors", Tourism Management, Vol. 53, Elsevier Ltd, pp. 1–12, doi:10.1016/j.tourman.2015.09.003.
- Martínez-Garcia, E. and Raya, J.M. (2008), "Length of Stay for Low-Cost Tourism", Tourism Management, Vol. 29 No. 6, pp. 75-1064.
- McFadden, Daniel (1974a), "Condition Logit Analysis of Qualitative Choice Behavior", In Frontiers in Econometrics, Vol. 1, pp. 43-105, doi:10.1108/eb028592.
- McFadden (1974b) "The Measurement of Urban Travel Demand", *Journal of Public Economics*, doi:10.1016/0047-2727(74)90003-6.
- Moschis, George P. (1996), *Gerontographics: Life-Stage Segmentation for Marketing Strategy Development*, Westport, CT, Greenwood Publishing Group.
- Moschis, George P., Lee, E., Mathur, A. H., and J. Strautman (2000), *The Maturing Marketplace: Buying Habits of Baby Boomers and Their Parents*, Westport, CT, Greenwood Publishing Group.
- Muller, T. E., and a. O'Cass (2001), "Targeting the Young at Heart: Seeing Senior Vacationers the Way They See Themselves", *Journal of Vacation Marketing*, Vol. 7 No. 4, pp. 285–301, doi:10.1177/135676670100700401.

- Nikitina, Olga, and Galina Vorontsova (2015), "Aging Population and Tourism: Socially Determined Model of Consumer Behavior in the 'Senior Tourism' Segment", *Procedia - Social and Behavioral Sciences* Vol. 214 (June), Elsevier B.V., pp. 845–51, doi:http://dx.doi.org/10.1016/j.sbspro.2015.11.736.
- Pallant, Julie (2010), "SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS", Journal of Advanced Nursing, Vol. 3
- Prideaux, B., Wei, S. and Ruys, H. (2001), "The Senior Drive Tour Market in Australia", Journal of Vacation Marketing, Vol. 7 No. 3, pp. 19-209, doi:10.1177/135676670100700302.
- Raymond, Joan (2000), "A New Chapter: The Joy of Empty Nesting", American Demographics.
- Reece, and William, S. (2004), "Are Senior Leisure Travelers Different?", Journal of Travel Research, Vol. 43 No. 1, pp. 11–18, doi:10.1177/0047287504265507.
- Ryan, Chris (1995), "Learning about Tourists from Conversations: The over-55S in Majorca", *Tourism Management*, doi:10.1016/0261-5177(95)00005-9.
- Shim, Soyeon, Kenneth C. Gehrt, and Mei Siek (2005), "Attitude and Behavior Regarding Pleasure Travel Among Mature Consumers", *Journal of Travel & Tourism Marketing*, Vol. 18 No. 2, pp. 69–81, doi:10.1300/J073v18n02.
- Shoemaker, S. (1989), "Segmentation Of The Senior Pleasure Travel Market", Journal of Travel Research, doi:10.1177/004728758902700304.
- Shoemaker (2000), "Segmenting the Mature Market: 10 Years Later", *Journal of Travel Research*, Vol. 39 No. 1, pp. 11–26, doi:10.1177/004728750003900103.
- Strauss, William, and Neil Howe (1991), Generations: The History of America's Future, 1584 to 2069. The History of America's Future, 1584 to 2069.
- Tongren, H.N. (1988), "Determinant Behavior Characteristics of Older Consumers", Journal of Consumer Affairs, Vol. 22 No. 1, pp. 57-136, doi:10.1111/j.1745-6606.1988.tb00217.x.
- U.S. Census Bureau (2010), "International Data Base."
- United Nations (2000), "Chapter 3. Changing Balance Between Age Group", In World Population Ageing 1950-2050, pp. 15–22.
- Vincent, V. C., and De Los Santos, G. (1990), "Winter Texans: Two Segments Of The Senior Travel Market", *Journal of Travel Research*, Vol. 29 No. 1, pp. 9–12, doi:10.1177/004728759002900103.
- Worsley, Anthony, Wei C. Wang, and Wendy Hunter (2010), "Baby Boomers' Food Shopping Habits. Relationships with Demographics and Personal Values", *Appetite*, Vol. 55 No. 3, pp. 72-466, doi:10.1016/j.appet.2010.08.008.