USING STATED PREFERENCE DATA TO EXPLORE THE FACTORS AFFECTING TOURISTS' CRUISE VACATION PREFERENCES

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This study aims to identify the factor that affect tourists' preferences regarding cruising between Taiwan and its minor islands. To some extent, such cruise serve as a hypothetical travel product. A stated preference technique is employed and two-stage surveys are conducted to collect the tourist's preference data. A binary logit model is then used to determine individuals' preferences in relation to cruises and to estimate the parameters. The factors found to affect the tourist's preferences in relation to cruises are the tourists' perceptions of cruises, as well as the service attributes of the cruises,   including self-independence in tour arrangements and the comfort/ convenience derived from traveling in this way, the relatively long duration of the journey (4 days), the free or partial-subsidized on-shore excursions and the on-board recreational activities. However, the socio-demographic variables are not found to significantly affect tourist's preferences for cruises.

Stated preferences, cruise tourism, binary logit model

INTRODUCTION

The growth of the cruise industry over the past two decades has been quite impressive, there having been an annual rate of increase rate of 7.5% in the number of passengers during that period (Cruise Line International Association [CLIA], 1998). It has been estimated that more than 10 million passengers cruised in 1999, and that more than 12 million passengers expected to cruise in 2000 (Gebhardt, 2001), reflecting a significant increasing over 4.4 millions in 1994 (CLIA, 1996). According to Peisley (2000), 13.3 million tourists are expected to go on a cruise vacation in 2006, and 40 large new cruise ships will come into service by then. Until recently, three service providers, namely, Carnival Cooperation, Royal Caribbean International and P&O/ Princess Cruises, have together operated a total of 75 ships but have accounted for 80% of the market (Brannigan and Harris, 2001). The statistics indicate that the cruise industry is one of the most promising sectors in tourism.

In spite of its significant role in the travel industry, only a limited number of studies have in the past attempted to forecast developments in the cruise vacation market. Researchers have so far generally focused on depicting cruise passenger profiles (e.g., Field, *et al.*, 1985; Marti, 1986; Hobson, 1993), or have examined passengers' motivation and satisfaction with cruise vacations (e.g., Teye and Leclerc, 1998; Qu and Ping, 1999). The study by de la Vina and Ford (2001) represents a significant attempt to estimate the probability that passengers will go on a cruise. In their study, the demand model was based on observations of actual behavior (i.e. revealed preference data collected from the survey) using the logistic regression analysis.

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According to Peisley (1999), the Asia-Pacific market has been regarded as "the most promising, but the explosive growth that some would like to see has not occurred". In this region, the cruise vacation is a relatively new travel product. The number of Singaporeans who went on cruises increased dramatically from 57,000 in 1993 to more than 700,000 in 1998 (Peisley, 1999). A similar phenomenon occurred in Taiwan. While approximately 50,000 Taiwan passengers went on a cruise in 1998, this figure increased to 250,000 in 1999 and to more than 300,000 in 2000 (Ho and Tien, 2002). An understanding of tourists' preferences regarding cruises will help further develop and promote cruise tourism.

An important question arises which is how should the potential market of cruise vacations be assessed under the circumstances that this travel product/service does not exist or that consumers do not experience of it. In response to it, it should be pointed out that the stated preference (SP) technique is a good approach that seeks to explain discrete choices made by individual decision makers in the face of hypothetical but realistic constraints and opportunities. As far back as the early 1990's, Louviere and Timmermans (1990) discussed in some detail the application and usefulness of stated preference and choice models in recreation and leisure research. The objective of our research has been to identify the factors that may have influenced the tourists' preferences regarding which cruise ship to choose for traveling. By using Taiwan's domestic cruise vacation market as an example, we adopt the stated preference approach to study the choice behavior since this technique may be used to conduct controlled tests to evaluate the effects of several factors. Our research results profile the preferences of tourist with regard to the potential cruise service market's attributes.

The reminder of this paper is organized as follows. A review of the literature on cruise markets is presented in the next section, after which the stated preference technique is briefly described. The methodology for development of cruise vacation preferences is subsequently presented, and this is followed by the model's estimation and a discussion of the results. Our conclusions are presented in the final section.

LITERATURE REVIEW

To date, there have only been a limited number of the studies undertaken on the cruise markets. Field, *et al.* (1985) concentrated on profiling cruise passengers to Alaska, and found that it was older, well-educated, high-income, married, retired professionals that went on cruise vacations. Marti (1986) derived similar results regarding the small-vessel cruise passenger profile. Both studies reflected characteristics of cruise passengers that were based on the descriptive analyses of the surveys.

Hobson (1993) divided the North American cruise market into four segments using a social-class structure market analysis. Each segment focused on a specific group of passengers in terms of their income level and paid travel cost. The author also recognized the changing demographics of those taking cruises. More passengers were younger (the median age was 41 years old), and they largely comprised married couples with children and lower family income (70% less than $60,000).

Moscardo, *et al.* (1996) compared tourist attitudes, participation in activities and evaluations of the experiences of cruises with other types of holiday (e.g., beach and summer resorts). Using a multidimensional technique, these researchers found that cruises offered a mixed experience that included elements from other vacation types as well as the unique cruise attributes.

Teye and Leclerc (1998) examined passengers' satisfaction with some of cruise product components, such as shore tours, entertainment, bar service and so on. Their study also provided a profile of respondents who were cruise passengers on board ships traveling in the Caribbean. It was found that

the majority of passengers (65%) were 40 years of age or below, well educated (45% with a bachelor's degree or above), and they had relatively low incomes (55% less than $60,000).

Douglas and Douglas (1999) examined the behavior of passengers on three cruise ships. They thoroughly investigated how the size and physical aspects of the cruise vessel were related to the types of passengers, the on-board activities and the nature of the cruise itinerary. Their findings implied that the on-broad activities and the cruise itinerary could have been the determinant for the cruise market segmentation. However, these two factors were not found to appear as frequently as the socio-demographic characteristics identified in the previous studies.

The study by Qu and Ping (1999) found that the majority of Hong Kong cruise travelers were white-collar workers, with ages ranging from 18 to 45 and with an annual income between US$15,000 and US$62,000. Their main motives for traveling were "to escape from normal life", "to gather socially", and "to enjoy the beautiful environment and scenery." Based on the results of their logistic regression analysis, it was found that the most significant determinants of the tourists' decisions to join a cruise trip were again "accommodation", "entertainment" and "food and beverage."

De la Vina and Ford (2001) used a logistic regression model to estimate the probability function of taking a cruise vacation, which depicted not only the characteristics of potential passengers, but also the effects of those factors on the propensity to choose. The key factors determining the propensity to choose a cruise vacation were marital status, income, previous vacation experience, cost, the duration of the cruise, visiting new destinations, and the availability of a precruise or postcruise package. Factors that were not found to be statistically significant included the typical number of pleasure trips per year, the itinerary, direct air flights to the city of departure, accessibility from the airport to the ship, gender, age, educational level, and the number of children.

The above review of the relevant literature facilitated in initially identifying the experimental factors, which had been reported as major elements in choosing cruise vacations, that would help design the stated preference questions in the present study. The following factors were selected for further investigation.

On-board facilities. These may drive tourists to choose cruise vacations because they are able during their travel time to utilize the various facilities on board ship and consequently have more fun during the journey. Similarly, tourists may prefer to go on cruises because of the on-board entertainment. When compared with the limited recreational activities provided by other tour vehicles (e.g., airplanes), this service attribute is likely to draw tourists away from other holiday types.

Travel cost. The choice of cruises may be influenced by the cost of travel. Tourists are usually faced with different travel packages in terms of the amount of money being spent. For example, dining and accommodation are included into the cruise vacation program; however, some on-board activities or on-shore excursions may be excluded. Intuitively, tourists may be less willing to choose cruises where they need to spend extra more money to engage in certain activities.

Itinerary attributes. In this study, it is hypothesized that the itinerary attributes will influence tourists' preferences regarding cruises. The duration of the journey is explored because a longer cursing time may discourage tourists from joining the ship and possibly result in a longer vacation if they can alternatively fly to the destination. Finally, the effect of the on-shore excursions offered is used to test the preferences of tourists for a cruise. A knowledge of such preferences would be useful for cruise product design and marketing.

OVERVIEW OF THE STATED PREFERENCE TECHNIQUE

The stated preference (SP) technique is typically employed to analyze the demand on the part of consumers for products or services that either do not exist or of which the consumers have no experience. In the case at hand, the respondents were presented with an alternative in relation to the cruise vacation and were asked whether or not they preferred this alternative as a hypothetical travel situation. The alternative was defined in terms of values attached to level-of-service attributes and other variables. The stated preference questions allowed for an understanding of the trade-offs between various factors that influence decision-making, and could have been designed to address issues related to the developing of cruise services. Thus, the technique was a logical choice for analyzing the demand for new emerging cruises in a regional tourism market.

The most important task faced in designing an SP study is to prepare the data generation instruments. The surveys are often utilized to identify those properties of the alternatives that are of greatest importance to individuals as well as the constraints they are facing. The attributes of each alternative are determined based on the type and magnitude of these constraints. Then the range of values for each attribute is set based on the magnitude of the constraints from the surveys.

Participants in an SP experiment need to complete a number of related tasks. They usually evaluate several separate choice tasks consisting of a set of alternatives. Each alternative possesses a set of attributes and each attribute is assigned a value. The attributes with the values are combined into the utility functions of the alternative to allow the respondents to make a choice. The theoretical model used to estimate the attractiveness of each attribute associated with an alternative is based on the model of revealed preference (Ben-Akiva and Lerman, 1985), which refers to a random utility theory combined with a binary logit choice process.

In our case, the respondent derives utility $U_0 = \beta_0'x + \mu_0$ from choice 0 (non-cruise), and $U_1 = \beta_1'x + \mu_1$ from choice 1 (cruise), in which μ_0 and μ_1 are the components of the individual's utility that are unaccounted for by the measured covariate, x. The choice (preference) of alternative 1 reveals that $U_1 > U_0$, or that $\mu_0 - \mu_1 f'' \beta_0'x - \beta_1'x$. The binary logit model is specified by means of the following formulation:

$$p_{i1} = \frac{e^{v_i}}{1 + e^{v_i}} = \frac{e^{u\beta'x_i}}{1 + e^{u\beta'x_i}}$$

(1)

$$p_{i0} = 1 - p_{i1} \quad (2)$$

where P_{i1} is the probability that tourist i chooses cruising in each SP task, and P_{i0} is the probability that tourist i does not choose to go on a cruise. V_i is the difference in the deterministic portions of the utilities both for cruising and not cruising for tourist i. In addition, V_i is formulated as a function of the stated preference scenarios of the cruise services as well as the socioeconomic characteristics of the respondent. The scale parameter, μ, is usually assumed to be one to make the β parameters equivalent to the estimated coefficients for the explanatory variables.

RESEARCH DESIGN

This research was carried out following Star Cruises's announcement that it would take into consideration operating short cruises (two-day cruises) between Taiwan and its minor offshore chain

of islands, Penghu, in terms of the great potential demand in Taiwan for cruise tourism. As a matter of fact, Taiwan and its small offshore islands comprise up to 1,600 kilometers of coastline, wich is supplemented by an abundance of oceanic tourism and recreational resources. Penghu has been ranked as the most popular domestic travel destination, in view of its embodying the essential elements for attracting tourists, namely, a unique and traditional culture, rugged hills and terrain, tropical plants and rich coastal reefs. In terms of the development of tourism, this region is underdeveloped as a cruise area. Nearly 90% of tourists depend on airplanes as a tour transport mode (the other 10% go by ferry) and a one-way trip takes approximately 1.5 hours. A two-day trip is a typical travel pattern for tourists to Penghu. Once the cruise line begins to operate, this travel product may offer more choices in relation to the journey, including the itinerary, the duration of the trip, and even recreational activities.

In order to construct a framework to investigate tourists' preferences regarding cruise vacations, the survey instruments developed for this study evolved over one-year period. During the early design stage, a tourism survey was conducted. This component was mainly designed to determine the attributes that influenced the tourists' choices of cruises and to set the range of values to be used for each attribute in the SP model. Then, a second survey that consisted of the SP experiments was undertaken.

Preparation of Stated Preference Survey Instrument

The survey collected information regarding the tourists' itinerary, socio-demographics, expected components of the cruise service, as well as attitudes toward the cruise service's attributes. The survey was distributed to 370 tourists at three major travel attractions in Taiwan between January 24 and February 11, 2001. The face-to-face interviewing technique was used. A total of 346 usable responses were obtained (24 were discarded because they failed to complete the survey). The data collected provided the basis for the design of the SP experiment.

Table 1
Orthogonal Fractional-factorial Design for 16 Choice Sets

Attrib / Task	Total travel cost	Duration of journey	On-shore excursion	Variety of facilities	Entertainment provide
1	NT$ 10,000	4-day-3 night	No	30 or above	Yes
2	NT$ 8,000	3-day-2 night	No	20-Oct	No
3	NT$ 6,000	4-day-3 night	Yes	20-Oct	Yes
4	NT$ 8,000	2-day-2-night	Partial payment	30 or above	Yes
5	NT$ 6,000	2-day-2-night	No	20-Oct	Yes
6	NT$ 6,000	2-day-2-night	No	30 or above	No
7	NT$ 8,000	2-day-2-night	Yes	10 or below	Yes
8	NT$ 6,000	3-day-2 night	Yes	30 or above	No
9	NT$ 10,000	2-day-2-night	No	10 or below	Yes
10	NT$ 10,000	2-day-2-night	Partial payment	20-Oct	No
11	NT$ 6,000	2-day-2-night	No	10 or below	No
12	NT$ 8,000	4-day-3 night	No	10 or below	No
13	NT$ 6,000	2-day-2-night	No	10 or below	Yes
14	NT$ 10,000	2-day-2-night	Yes	10 or below	No
15	NT$ 6,000	3-day-2 night	Partial payment	10 or below	Yes
16	NT$ 6,000	4-day-3 night	Partial payment	10 or below	No

The concept underlying the execution of the SP experiment was simple. The respondents were presented with a set of stated choice tasks. Each task specified the context regarding cruise vacations. The respondents were asked to examine the alternative on the basis of the design value assigned to the attributes of the cruise and to make a decision as to whether to go on the cruise or not. The attributes and their corresponding values that were used to define the alternative to the cruise included the travel cost (3 levels), the duration of the journey (3 levels), on-shore tours (2 levels), the number of facilities provided (2 levels), and on-board entertainment (2 levels). The design was based on the first survey results that reflected the journey characteristics of the majority.

Table 1 illustrates the 16 choice tasks constructed to form an orthogonal fractional-factorial research design. The marginal utility of each attribute could be estimated independently of the remaining attributes. The experience gained from the transport-related SP studies indicates that the results derived from choice sets that excluded consideration of interaction among the attributes were reasonable and were sufficient to represent the characteristics of the orthogonal fractional-factorial design (Kocur, Adler and Hyman, 1982). Furthermore, the trade-offs in each choice task had to be accepted by the respondent as a potential situation worthy of a serious consideration. Thus, the choice sets with no reasonable trade-off were removed with the result that 16 tasks remained.

SP Survey Design and Administration

The SP experiment constituted the main body of the second survey. The 16 SP tasks were divided into four packets. Each of these packets of experiments consisted of 4 SP tasks with an explanatory note reminding the respondents of the issue being explored. Each respondent was interviewed regarding their preferences for cruise vacations as a new domestic travel product to Penghu under four hypothetical scenarios. It should be noted that the information in relation to traveling by airplane (3-day-2-night trip costing NT$6,000-8,000 dollars) was also provided to the respondents as a point of reference to help complete the SP experiments. The preferences were measured on 4-point Likert Scale (1 representing extremely unlikely, 2 unlikely, 3 likely, and 4 extremely likely), regarding which the respondent was forced to make a clear choice without adopting a neutral attitude. In total, the four packets of SP tasks were identified through randomly chosen sequences of uppercase letters; with the sequence in which the respondents saw each set being randomized.

Apart from the SP experiment, the second survey also collected data related to the journey, socio-demographics and attitudes toward cruise vacations in terms of three factors that included social benefits, self-independence in relation to the tour arrangements and the comfort/convenience brought by traveling; measured by 10-point scale. These variables as well as the attributes and their values in the SP experiment provided the information with which the respondents could distinguish their preferences regarding cruises. From the point of view of the estimated model, they served as the independent variables used to specify the utility function.

The survey was administered to the respondents through face-to-face interviews, which was the method preferred, with a caveat regarding the affirmation bias - the tendency in respondents to detect and affirm the perceived views of the interviewer influencing the results (Bonsall, 1985). The survey was undertaken from June 20, 2002 to August 31, 2002. Before the SP experiments were carried out, a pilot test was made of the draft version. A total of one hundred and eighty domestic airline passengers with a leisure traveling purpose were interviewed at major airports and all yielded usable responses.

EMPIRICAL RESULTS

Socio-demographic and traveling characteristics
Table 2 shows the socio-demographic and traveling characteristics of the respondents in the second survey. The sample was 58.9% female and more than 75% of the respondents were well educated (at least some college or above). About 37.2% of the respondents were aged between 20 and 24 years old; 35% were 25-34; and 27.8% were 35 years old or above. Around 51% of the respondents had an annual income of less than NT$300,000, 21.1% earned between NT$300,001 and NT$500,000, and 27.8% earned more than NT$500,000 annually. (The exchange rate used was approximately US$1=NT$34).

Table 2
Profiles of respondents (N=180)

Socio-demographic characteristics	Respondent (%)	Traveling characteristics	Respondent (%)
Gender		Traveling companions	
Male	41.1	Family members	29.4
Female	58.9	Friends	43.3
		Work colleagues	25
		Others	2.3
Age		Types of travel products	
20-24 years old	37.2	Package by travel agency	27.8
25-34 years old	35	Transport or accommodation reserved by travel agency	9.3
35-44 years old	11.7	Self-independence	38.9
45-54 years old	10.5	Incentive travel	23.3
55 years old or above	5.6	Other	0.6
Education		Star Cruises lines operated in Taiwan	
High school diploma or below	24.5	Never known	11.1
Some college	42	Very little known	67.2
College degree or above	33.5	A little known	16.1
		Well known	5.6
Income		Average total travel cost per person (expected)	
No income	25	NT$ 4,000 or below	10
NT$ 300,000 or below	26.1	NT$ 4,000 – 6,000	45
NT$ 310,000 – 500,000	21.1	NT$ 6,000 – 8,000	11.6
NT$ 510 – 800,000	15.6	NT$ 8,000 – 10,000	16.7
NT$ 810,000 or above	12.2	NT$ 10,000 or above	16.7
Martial status		Number of days for this journey	
Single	65.5	2-day-1-night	13.9
Married	34.5	3-day-2-night	62.2
		4-day-3-night	17.2
Travel within last 3 months		Others	6.7
Once	56.1		
Twice	21.1		
Three times	10.6	Perceptions on cruises*	
Four times or above	12.2	Social benefits	6.2 (1.9)
		Self-independence in tour arrangements	5.6 (1.9)
Travel destination		Comfort/convenience obtained from traveling	5.7 (1.8)

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As regards the traveling characteristics of the respondents, nearly 56% were traveling for the first time during the past three months from the date surveyed; and nearly 86% were staying in their destination at least for at least three days. Almost 39% of the respondents arranged the itinerary by themselves, followed by travel services acquired through travel agencies (37.2%) and incentive travels (23.3%). The offshore islands of Taiwan were the travel destinations for the majority of the respondents (85%), the main travel companions were family members or friends (72.7%). Seventy-three percent of the respondents never knew or knew very little about Star Cruises in Taiwan. Only 10% responded that the expected travel cost (per person) would be less than NT$4,000 dollars. As to the attitudes toward cruises with regard to these three service attributes, in general, the respondents believed that cruising enables them to enjoy more social benefits during the journey. However, they had less self-independence in regard to the tour arrangements and the comfort/convenience of the trips.

Model Estimation

Before the binary logit model was applied to estimate the tourists' choice of cruise vacations, the preference indicated by the respondents in relation to each SP choice task was converted into the binary code, with 1 representing as the cruise choice (to aggregate the responses of "likely" and "extremely likely") and 0 as the non-cruise choice (to aggregate the responses of "extremely unlikely" and "unlikely"). This method has previously been used by de la Vina and Ford (2001), the purpose being to maximize the degree of freedom. The model's estimation using LIMDEP software is shown in Table 3.

Table 3
Parameter Estimation Results

Variable	Coefficient	t-statistic
Constant	-1.547	-3.93
Self-independence in tour arrangements	0.234	5.07
Comfort/convenience from traveling	0.113	2.28
Price (NT$ 8,000)	-0.508	-2.49
Price (NT$ 10,000)	-1.09	-5.39
2-day-2-night voyage	-0.298	-1.48
4-day-3-night voyage	0.68	2.74
Off-board itinerary (partial payment)	0.453	2.18
Off-board recreational activities	0.597	2.79
On-board recreational activities	0.602	3.6

Summary Statistics
Log Likelihood at zero = - 476.33
Log likelihood at convergence = - 423.36
Likelihood ratio index = 0.112
Number of observations = 720
Percentage correctly predicted = 0.68

Turning first to the alternative-specific constant, the negative sign indicated that the effects that had not been captured by the model tended to motivate the respondents to decide to not choose cruising. That is, when all of the observed attributes of the alternatives were the same, the average of the unobserved attributes operated in the direction of choosing not to go on a cruise. The most interesting and unique finding in this study was that all of the socio-demographic variables were found to be statistically insignificant with regard to the preference to go on a cruise, a research result that contradicted those of earlier studies. To some extent, this inconsistency in the finding of these different studies might primarily have been due to the differences in the data collection procedure that in this study involved exploring the potential cruise market instead of focusing on current consumers. It also implied that other explanatory variables were more plausible than the socio-demographic variables in probing the preferences in relation to cruises.

The variables in relation to the price of the cruise vacation had negative coefficients, indicating that the higher the price of the cruise vacation, the less likely the respondents would be to choose it. This finding is consistent with the notion that consumers seek lower prices for merchandise. Moscardo *et al.* (1996) reported that cruise tourists were concerned with the price of and value for money to be derived from cruise holidays. These research results were justified and indicated that tourists tried to minimize their travel expenditure, but only if the prices were acceptable.

The attitudes of tourists toward cruises were very significant variables in the model. The attitudinal variable of self-independency in terms of tour arrangements had a significant positive coefficient, which indicated that tourists who were more travel-independent were more likely to choose cruises, possibly because they could feel free to choose the length of their trip and off-board excursions. The other variable in relation to the comfort/convenience of traveling by cruise ship had a significant effect on the respondents' preference for cruises. Tourists who sought more comfort/convenience from their trips were found to be more likely to choose cruises. This indicated that tourists were more prone to be hedonistic, and to enjoy the diversified services and facilities provided, which gave them a greater incentive to try this novel type of vacation. These two variables clearly showed clearly the extent to which cruises were unique to tourists.

As to the other factors, the cruise service elements that included the duration of the journey (up to 4 days), free or partial payment for on-shore tours and on-board recreational activities, were found to have significantly positive effects on the decision to choose to go on a cruise. It seems that tourists who were highly interested in these desired travel attributes of cruise vacations were more likely to choose to go on cruises. These service characteristics may distinguish tourists' traveling experiences by means of cruises from the other holiday types. Interestingly enough, the variable in relation to the 2-day-2-night journey had a marginally significant negative coefficient, indicating that the shorter the duration of the cruise journey, the less likely it was that the cruise vacation would be chosen. This result showed that tourists recognized that more travel time was needed for cruising and they tended to avoid a tight schedule on their journeys.

The log-likelihood ratio as a goodness-of-fit index of the estimated model, which measured the fraction of an initial log-likelihood value explained by the model, explained 11% of the information contained within the data. Besides, 68% of the observations were predicted correctly. The research results obtained from this study may therefore offer the guidance with regard to the provision of domestic cruise services in Taiwan as well as in the other new regional cruise markets.

CONCLUSION

This paper presents the variables in relation to tourists' preference for cruise vacations. The research results were mainly based on the data collected using the stated preference technique. An experiment,

which was undertaken by means of face-to-face interviews, included four simple choice sets. The choice sets were designed to investigate the effects of cruise service attributes and other factors related to cruise preferences. The analysis indicated that tourists' perceptions of cruises in terms of self-independence in terms of tour arrangements and the comfort/convenience derived from traveling on a cruise shop, a relatively long duration in terms of the journey (4 days), free or partial payment for on-shore excursions and the provision of on-broad recreational activities were important factors that motivated tourists to go on a cruise. The price factor and a shorter journey time were represented as the constraints that lessened the desires for cruise vacations.

In the context of this study, socio-demographic factors in relation to the cruise vacation market had no significant effects on preferences regarding cruises. de la Vina and Ford (2001) also arrived at similar research findings. However, such results may contradict those of earlier cruise marketing studies that offered empirical validation for the inclusion of such variables (e.g., Field et al., 1985; Marti, 1986; Hobson, 1993; Teye and Leclerc, 1998). The author agreed that using so-called socio-demographic variables may not adequately profile the cruise ship passengers, even though the other cruise service characteristics are included in the estimated model of tourists' preferences. To capture in more in-depth way the entirety of the market potential, future research should focus on this issue that is concerned with the validity of this study's findings.

This current study explains the factors that account for the tourists in the sample who stated that they preferred other forms of travel to cruises. Understanding preferences is very important in situations regardless of whether there is evidently a wide gap between preference and actual behavior, as in this case and some other new cruise lines offered to the original market. Nevertheless, the research findings provide marketers with the tools for marketing activities associated with cruise vacations. In addition, the methodology applied in this study sheds light on tourism field and hopefully raises more awareness when new travel product/service markets are explored.

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REFERENCES

Bates, J. (1988). Econometric Issues in Stated Preference Analysis. *Journal of Transport Economics and Policy*, 22(1), 59-69.

Ben-Akiva, M. and Lerman, S. R. (1991). *Discrete Choice Analysis*. Cambridge, Massachusetts: The MIT Press.

Bonsall, T. P. (1985). Transfer Price Data Its Definition, Collection and Use. In E. Ampt, A. Richardson and W. Brog (Eds.), *New Survey Methods in Transport* (pp.257-271). Utrecht, Netherlands: VNU Science Press.

Brannigan, M. and Harris, N. (2001). Royal Caribbean, Princess agree to merge. *Wall Street Journal* (November 21).

Cruise Line International Association. (1996). *The Cruise Industry: An Overview*. New York: Cruise Line International Association.

Cruise Line International Association. (1998). *The Cruise Industry: An Overview*. New York: Cruise Line International Association.

de la Vina, L. and Ford, J. (2001). Logistic Regression Analysis of Cruise Vacation Market Potential: Demographic and Trip Attribute Perception Factors. *Journal of Travel Research*, 39(4), 406-410.

Douglas, N. and Douglas, N. (1999). Cruise Consumer Behavior: A Comparative Study. In A. Pizam and Y. Mansfeld (Eds.), *Consumer Behavior in Travel and Tourism* (pp. 369-392). New York, NY: The Haworth Hospitality Press.

Field, D. R., Clark, R. N. and Koth, B. A. (1985). Cruise Ship Travel in Alaska: A Profile of Passengers. *Journal of Travel Research*, 24(2), 2-8.

Gebhardt, T. (2001). Cruise Ship Comeback. *New World,* 3, 80.

Greene, W. H. (1995). *LIMDEP Version 7 User's Manual*. Plainview, NY: Econometric Software, Incorporated.

Ho, C. and Tien, H. (2002). A Study of Potential Market Characteristics of Cruise Vacations Between Taiwan and Its Minor Islands. *Journal of Outdoor Recreation Study*, 15(3), 11-30.

Hobson, J.S. P. (1993). Analysis of the US Cruise Line Industry. *Tourism Management*, 14(6), 453-462.

Kocur, G., Adler, T. and Hyman, W. (1982). *Guide to Forecasting Travel Demand with Direct Utility Assessment.* US Department of Transportation.

Louviere, J. J. and Timmermans, H. (1990). Stated Preferences and Choice Models Applied to Recreation Research: A Review. *Leisure Science*, 12(1), 9-32.

Marti, B. E. (1986). Cruising: Small-vessel Population Characteristics. *Journal of Travel Research*, 24(4), 25-28.

Moscardo, G., Morrison, A. M., Cai, L., Nadkarni, N. and O'Leary, J. T. (1996). Tourist Perspectives on Cruising: Multidimensional Scaling Analyses of Cruising and Other Holiday Types. *The Journal of Tourism Studies*, 17(2), 54-63.

Peisley, T. (1999). The Cruise Business in Asia Pacific. *Travel and Tourism Analyst*, 52(4), 1-20.

Peisley, T. (2000). The Cruise Industry in the Arabian Gulf and Indian Ocean. *Travel and Tourism Analyst*, 59(3), 3-17.

Qu, H. and Ping, E. W. Y. (1999). A Service Performance Model of Hong Kong Cruise Travellers' Motivation Factors and Satisfaction. *Tourism Management*, 20(2), 237-244.

Teye, V. B. and Leclerc, D. (1998). Product and Service Delivery Satisfaction Among North American Cruise Passengers. *Tourism Management* 19(2), 153-160.