Available online at www.sciencedirect.com
ScienceDirect
Tourism Management 29 (2008) 1023–1034
TOURISM MANAGEMENT
www.elsevier.com/locate/tourman

Sequential choice behavior: Going on vacation and type of destination

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Received 28 March 2007; accepted 14 January 2008

Abstract

The literature of destination choice has so far studied multi-stage decision making processes that are more representative of the general choice behavior of tourists (e.g. going on vacation, going abroad, and destination country). Alternatively, this study proposes a multi-stage decision process to the choice of tourist destination types (going on vacation, coastal character, and urban character of the destination) as these choice sets are more idiosyncratic to tourists who prefer a specific type of tourist destination (e.g. Spain with clear coastal and inland variations). In order to test this multi-stage choice process as well as the sequential order of both decisions, coastal character and urban character, the current study analyses decision processes vs. different hierarchical multi-stage processes (going on vacation and coastal character preceding urban character; and going on vacation and urban character preceding coastal character). The empirical findings support the existence of a multi-stage choice process where coastal character precedes the urban character destination choice. The main implication of these findings is that, given the limited human analytical capability, a hierarchical choice process can be useful to handle the information overload and the complexity inherent to the destination type choice.

Keywords: Tourist behavior; Multi-stage decision process; Destination type choice; Random Parameter Logit Model

1. Introduction

Interest in the way in which individuals decide on purchase alternatives (product, brand, etc.) has made the analysis of choice and preference formation one of the most studied areas of marketing in recent years (Zwerina, 1997). Contributions to this are the development of probabilistic choice models derived from the Random Utility Theory, the extension of the Neoclassical Economic Theory proposed by Lancaster (1966) and the development of psychological theories focusing on the consumer.

In general, the study of tourist choice has been conducted from multiple perspectives due to the multiple sub-decisions involved in the decision making process (Fesenmaier & Jeng, 2000). If the focus is on the basic choice made by tourists, i.e. to take a vacation, one finds that the literature of probabilistic choice usually treats this as a single decision and applies Binomial Logit Models (e.g. Hay & Mcconnell, 1979; Walsh, John, McKean, & Hof, 1992). If the focus is on the choice of tourist destination, the authors also consider the single decision of selecting one destination from several alternatives, which are defined in terms of administrative units (e.g. countries Haider & Ewing, 1990; Morley, 1994a, 1994b), macro destinations (through the aggregation of geographical areas, in Siderelis & Moore, 1998) and destination types (such as regional or national natural parks, in Adamowicz, Louviere, & Williams, 1994; Borgers, Van Der Heijden, & Timmermans, 1989; Dubin, 1998; Fesenmaier, 1988; Morey, Shaw, & Rowe, 1991; Perdue, 1986; Riera, 2000; Schroeder & Louviere, 1999; Train, 1998; Wennergren & Nielsen, 1968). These studies apply Multinomial Logit Models (MLMs).

However, Eymann and Ronning (1992) and Eymann (1995) believe that tourist choice is a more complex process which can be separated into various stages incorporating the following decisions, which are more representative of the general choice behavior of tourists: to take a vacation (obviously, the decision to leave the usual place of residence during the vacation period constitutes the first choice made by tourists (Morley, 1992; Seddighi & Theocharous,

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doi:10.1016/j.tourman.2008.01.004

2002)), to go abroad and choice of destination country. To test this process, Eymann and Ronning (1992) and Eymann (1995) use a Nested Logit (NL) Model because it resolves the problem of the assumption of Independence from Irrelevant Alternatives (IIA) and is therefore more suitable for the analysis of multi-choice decisions.[1]

Following this multi-stage approach, we propose that the decisions to go on vacation and the type of destination in terms of coastal character (coastal vs. inland) and urban character (village vs. city) are nested and non-independent decisions. Therefore, we assume that tourists make three sequential decisions before arriving at their final choice: the decision to go on vacation, the coastal–inland decision, and the decision over the urban character of the destination.

In contrast to previous studies of tourists' destination choice, in the second and third stage of our analysis, the formation of the choice sets as the types of tourist destinations (coastal vs. inland and village vs. city) seems to be less representative of the general choice behavior of tourists, but more idiosyncratic to those who prefer a specific type of tourist destination: for example, Spain with clear coastal and inland variations. The idea is that, if tourists want to travel to a country a great distance away and that is endorsed mainly by cultural heritage, they might not mind if the destination is coastal or inland. In this sense, our analysis of the types of tourist destinations (coastal vs. inland and village vs. city) refers more to the regional, than national, level of tourist traveling behavior. Moreover, given that these types of destinations could be strongly linked to the purpose of their visits, our paper considers how the purpose of the visit (motivation of travel) of tourists determines their destination choices.

Finally, the underlying outline in our hierarchical perspective of the choice process of destination (going on vacation, coastal vs. inland, and village vs. city) is supported by the idea that people have a limited analytical capacity (Simon, 1955). People often decompose a complex decision into a hierarchical process and adopt a small set of critical variables to monitor at each level (Steinbruner, 1974), making the decision process more manageable. Specifically, the hierarchical process is suitable for the destination type choice because of the dramatic differences that exist among various destination types and among the criteria of choice at each level. Thus, circumstances that are suitable for a coastal destination differ dramatically from those that call for an inland city. They are too different to be compared at the same level. Consequently, a sequential nested choice process can help tourists to gain a better understanding of complex destination choice behavior. However, we do not know the sequence of the two destination decisions (see Fig. 1).

In virtue of the above, the objective of this study is to test different destination type choice processes: with independent decisions and with nested and non-independent decisions. To do this, the methodology estimates and compares the following models, where the first stage is the decision to go on vacation: (i) two separated two-stage models that include the processes: going on vacation (first stage) and coastal–inland (second stage) decisions, and going on vacation (first stage) and city–village (second stage) decisions, respectively; (ii) a two-stage model with going on vacation (first stage) and the four destination type choices (simultaneously) in the second stage (coastal, inland, city, and village); (iii) two, three-stage models, one with going on vacation (first stage), then the coastal–inland decision (second stage) before the city–village decision (third stage), and another with going on vacation (first stage), then the city–village decision (second stage) before the coastal–inland decision (third stage).

Also, we test the determinant factors for these decision processes in terms of price of destination and the interactions "income × prices" and "motivation of travel × prices". To test these multi-stage decision making processes we propose a Random Coefficient Multinomial Logit (RCL) Model to find the correlations structure of the non-independent alternatives. As shown later (see Section 3.1), this model avoids the estimation problems of the NL and can represent any correlation among alternatives. In actual fact, McFadden and Train (2000) have demonstrated that any random utility model can be approximated by a RCL Model. Moreover, the RCL Model also finds the heterogeneity between tourist preferences by assuming that the coefficients of the variables vary among tourists.

[1] This property implies that the ratio of probabilities between two alternatives i and j is independent of the choice set that contains them. That is, given two choice sets, S and T so that $S \subseteq T$, then

$$\frac{P_S(i)}{P_S(j)} = \frac{P_T(i)}{P_T(j)}.$$

However, this property sometimes leads to results that are against basic logic, as in the well-known Debreu (1960) "red-bus and blue-bus" paradox: the inclusion of a bus with a different color to the existing one has an influence on the probability of choosing a third alternative, say automobile. Basically, this property implies that valid choice sets are those whose alternatives are equally similar or dissimilar, in such a way that the inclusion or exclusion of one of them would result in the same proportional change in the probability of the other alternatives. However, in a real context with different levels of similarity or dissimilarity this proportional change is not very realistic. Let us assume an individual is going to stay in a resort, and may choose between a campsite and a hotel. If a new hotel with the same facilities as the existing one is also included, the Multinomial Logit Model will, no matter their choice probabilities, subtract the same proportion from each probability. However, intuition says that the probability of choosing a campsite should remain the same. Assuming that the original probabilities are 1/2, after adding the third alternative (the new hotel), the Multinomial Logit Model gives a probability equal to 1/3 for each alternative. From a statistical point of view, this inconsistency is due to the violation of the assumption of independence of the random term: in the previous example, the error sources for the two hotels are practically the same, resulting in highly correlated error terms; suffice it to say, the non-observable attributes of these two alternatives are very similar and, in consequence, the random components are not independent. The Nested Logit Model allows error components to be correlated; however, as detailed in Section 3.1, its estimation shows important problems.