

An Alternative Method for Developing New Tourism Products

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Abstract

Past marketing literature have seldom reported the use of sophisticated marketing research tools to develop new products in the tourism sector. When Indian tourism sector is in the process of growth it is wise to look at the developments that are taking place in the field of marketing research. The authors in the current paper suggest a marketing research method identified as conjoint analysis and show the power and flexibility of this technique in developing new tourism products. Conjoint analysis is described as an emerging dependence technique that has brought new sophistication to the evaluation of objects, whether they are new products, services or ideas. The strength of this method lies in its most direct application in new product or service development. This is efficiently done by allowing for the evaluation of complex products while maintaining a realistic decision context for the respondent. Further, the authors put forth the appropriateness of such a method and show the relative advantages in opting for the same by the tourism sector in India especially at a time when shifts in revenues are reported in the global tourism scenario.

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Introduction

The principal motivation behind such a paper came to us when we started searching for Indian tourism related marketing literature. We found, after going through national as well as international journals that there is hardly any report of the multivariate method conjoint analysis being used developing new products in Indian tourism sector. In terms of a methodology conjoint analysis provides excellent forecasts and its use has ever been increasing right from its inception in the early 70's. It has also received widespread acceptance and use in various industries and sectors with the usage rate increasing tenfold in the 1980s (Wittink and Cattin 1989). But Indian tourism sector, it seems, still uses managerial expectations and apprehensions to develop new products. Our argument in this respect is simple and straightforward. A new product must satisfy the needs and wants of the consumer and not the needs and expectations of the management team. In India, it also presents a very sorry state of affairs concerning the incompatibility between the developments in the academia and the industry. Apart from wide use of conjoint analysis in multifarious fields it has also undergone much refinements so as to make it more powerful in solving complex marketing decision situations over these years.

In the current paper we attempt to demonstrate the power of conjoint analysis and identify areas in the Indian tourism sector where it can be effectively administered for better predictable efficacy. We also discuss the simplicity and flexibility of this method along with certain special uses to show the reader that this method goes beyond just identifying new products and attempt to simplify managerial decisions relating to other marketing concepts and objects.

Background

Tourism undoubtedly emerges as one of the most remarkable economic and social phenomena of the last century. Apparently it seems that it is all set keep this position for the next century as well. Every year a bigger portion of the world population takes part in tourism activity and for the majority of countries tourism has developed as one of the most dynamic and fastest growing sectors of economy. On a global scale the number of tourists is constantly increasing. Especially in the past 50 years the growth of tourism has been phenomenal in terms of its expansion. Between 1950 and 1999 the number of international arrivals has shown an evolution from a mere 25 million international arrivals to the current 664 million, corresponding to an average annual growth rate of about 7 per cent. In addition to its strong overall expansion, the development of modern day tourism is also characterized by its ongoing geographical spread. Numerous countries have been successful, not only in attracting significant numbers of tourists, but also in turning tourism into a source of wealth. A notable diversification in tourism destinations has taken place, with those of Asia, North Africa and Latin America and the Caribbean being the emerging destinations joining in (see, *World-Tourism web document*).

With these developments taking place around lets understand India's interests as well as the needs of the hour. India has the potential to release foreign exchange earnings from current \$3 billion to over \$10 billion and attract 10 million tourists by 2008. This is possible even with the existing infrastructure, may be a marginal investment in certain specific segments, rational management of hospitality industry and adjusts in the mindset of various players in the field. But India's share in world tourist arrivals and receipts is dismally insignificant (see, *Tourism Potential of India web document*).

In the post liberalized scenario Indian private sector is assumed to play a greater role in the development of tourism sector compared to government efforts. Therefore, it is a concerted

effort by all players in the private sector that can properly position India as a better tourism destination option by uniquely designing products and promotions that distinctly focuses on specific market segments with definite needs. Traditionally India's tourism is promoted on account of its diversity and vast variety offering in terms of its flora, fauna, cultural heritage etc. Now the problem lies in properly designing products that suit to different needs of international tourists. Reports indicate that though recreation and leisure holidays remain as the principal segment of tourism purpose but other small areas are registering a better growth such as visiting friends and relatives, religious purposes/pilgrimages, health treatment etc. In the last ten years, especially the share of this category has been rising. This pattern reflects the trend towards market diversification and the division of holidays, with people traveling for shorter periods of time and for different reasons. This growth has basically detracted from the share of total trips made for leisure, recreation and holiday purposes, the share ascribed to travel for business and professional purposes having remained relatively stable (see, *World-Tourism web document*).

Against this backdrop, we strongly feel, there is a need to understand the changing preferences of the international tourist and identify suitable products/packages that yields better choice and in turn can increase revenues. Therefore the importance of appropriate marketing research further gets emphasized as compared to the past practices of going by management intuitions. Need has come to promote specific products/packages rather than promoting the whole of India as a tourism destination. Hence, we propose a flexible but enormously powerful multivariate method *Conjoint Analysis* and show how this can identify ideal new tourism products that can better address the future needs.

What is Conjoint Analysis?

As a research method, conjoint analysis portrays consumers' decisions more realistically as tradeoffs among multi-attribute products or services. The authors, in this paper, revisit this technique in developing new tourism products and show the flexibility and prowess of this methodology that helps evaluate any set of objects or concepts related to tourism marketing. The authors also point out the importance of conjoint models that help in predicting optimum combinations of new tourism products, estimating customer judgments to predict market shares among objects with differing sets of features, isolate groups of potential customers (Green and Kreiger 1991) and identify opportunities for feature combinations not currently available among tourism product offers. With the increase in use of information technology and personal computer based programs, the authors finally conclude the ease in estimating the entire process, i.e., from generating combinations of predictor variables to creating choice simulators.

Conjoint Analysis is a "what-if" experiment in which buyers are presented with different possibilities and asked what they would buy. Despite its name, conjoint analysis is not like other multivariate methods such as factor analysis, cluster analysis etc. Rather it is a type of thinking experiment that is designed to show how various elements of products or services (elements such as price, brand name and features) predict consumer preferences for certain hypothetical products or services. Conjoint analysis is a multivariate technique used specifically to understand how respondents develop preferences for products or services. It is based on the simple premise that consumers evaluate the value or utility of a product or service (real or hypothetical) by combining the separate amounts of utility provided by each attribute.

The Conjoint Model

Essentially in conjoint analysis the analyst tries to understand the “preference structure” of a respondent. It is actually a family of techniques and methods, all theoretically based on the models of information integration and functional measurement (Louviere 1988). In terms of the basic dependence model conjoint analysis can be expressed as

$$Y_1 = X_1 + X_2 + X_3 + \dots + X_N$$

(nonmetric, metric) (metric)

From the above it is clearly evident that the flexibility of conjoint analysis primarily arises from its ability to accommodate either a metric or a nonmetric dependent variable and use of categorical predictor variables. Moreover, it makes quite general assumptions about the relationship between dependent and independent variables. We have presented the operationalization of this in the later part of our paper. But this clearly shows the suitability of conjoint model in the field of tourism, as very often an analyst is likely to come across categorical variables while identifying ideal new product designs.

The basic method of conjoint analysis asks consumers to imagine products or services that vary along some dimensions of interest and to score these products or services in some way. The scoring is usually done by ranking or rating as per the preference of consumers. These scores are then used to decompose for the purpose of estimating the values of each attribute level in the experiment. The interesting difference here from other methods is that the respondent need not tell the researcher about the attraction or evaluation of specific attributes of a given product or service. Because the researcher constructs the hypothetical products or services in a specific manner, the importance of each attribute and each value of each attribute can be computed from the respondents’ overall rating.

Therefore to be successful in a conjoint experiment the analyst must be able to properly and in clear terms describe the product or service in terms of both its attribute and all relevant values of each attribute. The respondents may be asked to rate the hypothetical products (may be using a 10-point scale) or rank all of them that are presented to them by the analyst. Conjoint method is also sometimes referred as a “trade-off analysis” because in making a judgment on a hypothetical product, respondents must consider both positive and negative characteristics of the product to form a preference. Thus the respondents must weigh all the attributes simultaneously in making their judgments.

By drawing a contrast between specific treatments (combinations or stimuli or hypothetical products/services) the analyst attempts to understand the overall preference for each treatment. This overall preference that represents the “total worth” of a treatment is thought of as based on the “part-worths” for each level of each attribute. Here the general form of the conjoint model presented as

$$\text{Total worth for product}_{ij\dots n} = \text{Part-worth of level}_i \text{ for factor}_1 + \text{Part-worth of level}_j \text{ for factor}_2 + \dots + \text{Part-worth of level}_n \text{ for factor}_m$$

Where the product/service has m attributes (referred as factors), each having two or more levels (a mandatory requirement). Thus the hypothetical product consists of level _{i} of factor₁, level _{j} of factor₂, ... upto level _{n} for factor _{m} .

In general most of the dependence methods assume a linear relationship. However, conjoint analysis is not limited to types of relationships between the dependent and independent variables. It can make separate predictions for the effects of each level of the independent variables and does not assume they are related at all. Thus conjoint method can easily handle non-linear and even curvilinear relationships.

Extensions and Special Topics in Conjoint Analysis

One of the most common uses of conjoint analysis is to group respondents with similar part-worths to identify specific marketing segments. Often it may become necessary for the researcher to identify these groups and understand their relative magnitude to ascertain the attractiveness in the tourism sector. Through conjoint analysis an analyst can also do a marginal profitability analysis of the hypothetical products and services. If the cost of each feature is known, the cost of each proposed product can be combined with the expected market share and sales volume to predict its viability.

Conjoint analysis can also give birth to choice simulators. First the conjoint models for each respondent (or group) is estimated and validated. Second selection is made of a set of stimuli (treatments) that may resemble the competitive scenarios. Then simulation is done for the choices of all respondents (or groups) for the specified sets of stimuli and predictions are obtained for each stimulus by aggregating their choices.

Conjoint analysis with large number of attributes seems to be very difficult to handle. But one variant of the main analysis method known as Adaptive Conjoint Analysis (ACA) developed by Sawtooth Software handle these with great ease. One more extension is developed utilizing the conjoint principle known as Choice Based Conjoint model. Traditional conjoint analysis assumes that the judgment task based on ranking or rating captures the respondent choices. But some researchers have argued that this may be less realistic way of reflecting the actual market setting. Past research has shown that choice is often a two-stage process (Shoker et al. 1991). Therefore it would be more prudent to ask the respondent to identify a choice set from among the options laid down rather than rating them. This helps the analyst to observe the threshold above which the respondent makes his/her choice.

Assumptions and Cautionary Issues in Conjoint Analysis

Even though we presented the conjoint model in an attractive manner but it involves certain care to be observed by the researcher. One of the key issues to be addressed in the conjoint experiment is of realism though most of it deals with hypothetical concepts. Respondents must be able to visualize in real terms what kind of hypothetical tourism products are being presented by the researcher. In designing the experiment the analyst must specify differing attributes as the respondents to arrive at a choice ultimately trade these off. These attributes should also be relevant to ones own marketing program. Using appropriate levels is another key issue that should be realistic and believable. The success of the conjoint experiment also depends on the selection of proper study design, selection of respondents, specifying the main effects model, specifying the data collection method and above all professional execution of the experiment.

Conclusion

We did not attempt to explain the procedure of conjoint analysis; rather the scope of this paper is to show the power of this model in addressing the new product development issues in the Indian tourism sector. Due to cost considerations, conjoint analysis usually should be reserved for studies of product improvements or new product developments. The ability of

conjoint analysis to model market response is especially valuable in its application to Indian tourism sector. Therefore the reader should note that the conjoint method should not be used for the primary purposes of measuring the importance of product attributes or market segmentation as cheaper methods provide adequate data for these purposes.

Conjoint analysis places more emphasis on the ability of the researcher/manager to theorize about the behavior of choice than it does on analytical technique. Though this technique has strong theoretical foundations, its applications have increased dramatically without corresponding theoretical development. Today it is simple to use conjoint analysis especially after the easy availability of many personal computer based software programs (Bretton-Clark 1988, 1988, 1988; Sawtooth Software 1993, 1993, 1993; Smith 1989; SPSS 1990). Some of the popular computer programs for conjoint analysis are MONANOVA (Monotonic Analysis of Variance), LIMAP and SPSS etc.

References

- Bretton-Clark (1988), *Conjoint Analyzer*, New York: Bretton-Clark
Bretton-Clark (1988), *Conjoint Designer*, New York: Bretton-Clark
Bretton-Clark (1988), *Simgraph*, New York: Bretton-Clark
Green, P.E. and A.M. Kreiger (1991), "Segmenting Markets with Conjoint Analysis," *Journal of Marketing*, 55 (October), pp. 20-31.
Sawtooth Software (1993), *Adaptive Conjoint Analysis*, Evanston, III.: Sawtooth Software.
Sawtooth Software (1993), *Choice Based Conjoint*, Evanston, III.: Sawtooth Software.
Sawtooth Software (1993), *Conjoint Value Analysis*, Evanston, III.: Sawtooth Software.
Shocker, Allan, Moshe Ben-Akiva, Bruno Boccara and Prakash Nedungadi (1991), "Consideration Set Influences on Consumer Decision Making and Choice: Issues, Models and Suggestions," *Marketing Letters*, 2 (August), 181-98.
Smith, Scott M. (1989), *PC-MDS: A Multidimensional Statistics Package*, Provo, Utah: Brigham Young University Press.
SPSS, Inc. (1990), *SPSS Categories*, Chicago.
"Tourism Highlights 2000," Second edition, August 2000, visit web document address for details of <http://www.world-tourism.org:83/omt/wtich.htm>
"Tourism Potential of India," web document address <http://www.rajtourism.com/html/articles/article06.htm>
Wittink, D.R. and P. Cattin (1989), "Commercial Use of Conjoint Analysis: An Update," *Journal of Marketing*, 53 (July), pp. 91-96.