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Sara Dolnicar

*University of Wollongong, s.dolnicar@uq.edu.au*

Friedrich Leisch

*Vienna University of Technology, Austria, friedrich.leisch@boku.ac.at*

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Market segmentation is a widely applied concept in destination management. Although the general trend in tourism marketing research has constantly been developing toward data-driven (a posteriori, post-hoc) approaches, national tourism organisations (NTOs) still mostly use the commonsense (a priori) approach of geographical segmentation. This paper compares the advantages and drawbacks of both methods and illustrates some of them using a real empirical example.

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# Geographical or behavioural segmentation? The pros and cons for destination marketing

**Sara Dolnicar**

School of Management, Marketing  
and Employment Relations  
University of Wollongong  
Wollongong, NWS 2522, Australia  
Telephone: (61 2) 4221 3862  
Fax: (61 2) 4221 4154  
sara\_dolnicar@uow.edu.au

**Friedrich Leisch**

Department of Statistics and Probability Theory  
Vienna University of Technology  
Wiedner Hauptstrasse 8-10, 1040 Vienna, Austria  
Telephone: (43 1) 58801 10715  
Fax: (43 1) 58801 10798,  
friedrich.leisch@ci.tuwien.ac.at

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## **Abstract**

Market segmentation is a widely applied concept in destination management. Although the general trend in tourism marketing research has constantly been developing toward data-driven (*a posteriori*, *post-hoc*) approaches, national tourism organisations (NTOs) still mostly use the commonsense (*a priori*) approach of geographical segmentation. This paper compares the advantages and drawbacks of both methods and illustrates some of them using a real empirical example.

## Introduction

Market segments are subgroups of the market that are described by certain common characteristics. There are numerous ways how market segments can be identified (Mazanec, 1997; Wedel & Kamakura, 1998) or constructed (Aldenderfer & Blashfield, 1984), but the two basic building blocks of all those possibilities are only two: defining segments on the basis of one piece of information or on the basis of an entire set of information (the segmentation base).

If destination management is aware of the tourist characteristics that are of importance for such a grouping, it is sufficient to split the market up accordingly. This procedure is referred to as *a priori* (Mazanec, 2000) or commonsense (Dolnicar, forthcoming) segmentation and involves four consecutive steps: (1) Splitting tourist into segments on the basis of characteristics known to be relevant, (2) testing whether resulting segments differ, (3) describing resulting segments, and (4) selecting the optimal segment for a destination's tourist offer.

If, however, destination management has no or insufficient prior knowledge about the relevant criteria, groupings are searched for on the basis of an empirical survey data set, a procedure called *a posteriori* (Mazanec, 2000), *post-hoc* (Wedel & Kamakura, 1998) or data-driven (Dolnicar, forthcoming) segmentation. It involves (1) the selection of a segmentation base (the variables from the data set that should be included in the analysis), (2) partitioning of the data set with the aim of determining a grouping that renders homogeneous groups that are strongly distinct from each other, (3) assigning tourists to those groups, (4) testing whether segments are significantly different from each other with regard to other pieces of information, (5) description of segments, and (6) selection of the optimal segment to target.

While there are numerous *a priori* segmentation studies that have been published in tourism research journals (sometimes not explicitly referred to as segmentation studies but profiles of particular subgroups), the number of data-driven studies has steadily increased (see Dolnicar (2002) for a comprehensive overview).

The analysis and selection of target markets is the core business of national tourism organisation (Heath and Wall, 1992; Morrison *et al.*, 1995; Moutinho, Rita & Curry, 1996). Typically, NTOs choose to adopt the concept of geographical segmentation (Dolnicar & Grabler, 2003; Mazanec, 1986a and b).

This article aims at listing the advantages and disadvantages the two fundamental segmentation approaches have in the context of destination choice and illustrates these using empirical data from the Guest Survey Austria. By doing so, it attempts to illustrate that there is no single best way of segmenting markets and that commonsense segmentation should not automatically be viewed as inferior to methodologically more complex procedures typically applied in the partitioning phase of data-driven segmentation.

## Concepts and data

The two approaches that will be compared are a geographical segmentation approach (*a priori* segmentation), representing the most typical segmentation concept implemented in NTOs and a behavioural *a posteriori* segmentation approach based on vacation activities tourists undertake during their holiday.

The data illustration is based on an empirical data set: The Guest Survey Austria (GSA) from the summer seasons of 1994 and 1997. This is a repeatedly conducted survey funded by the

Austrian NTO (Oesterreich Werbung), the Federal Ministry for Economic Affairs, the Chamber of Commerce Austria as well as the Austria regional tourism organisations. It is based on a quota random sample of tourists (criteria for the quoting are the region in Austria, the country of origin and the type of accommodation). The Institute of Tourism and Leisure Studies at the Vienna University of Economics and Business Administration, the Austrian Society for Applied Tourism Science (ÖGAF) and the Salzburg Institute for Basic Research have designed and conducted the survey. The data set includes socio-demographic information about the respondents, travel related information, leisure activities and travel motives. The sample size for the two consecutive summer surveys amounts to 12273.

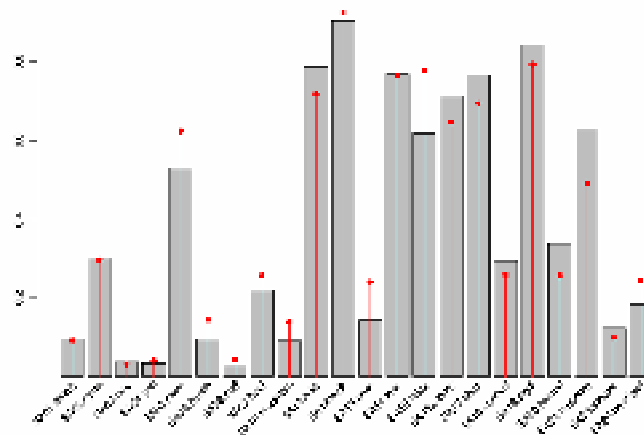
The geographical segmentation is constructed by splitting the respondents into groups by their country of origin, resulting in the following segments: Vienna (916 respondents), Austria without Vienna (1090), Belgium (647), Denmark (515), France (621), Germany (3399), Hungary (442), Italy (690), Netherlands (913), Spain (234), Sweden (393), Switzerland (727), the UK (799), the USA (500) and other countries (387). The segment of Italian visitors is chosen for illustration.

The data-driven solution uses vacation activities as segmentation base. The data set was partitioned using the *k*-means algorithm with Euclidean distance as measure of association. The binary raw data was not pre-processed. Solutions with numbers of clusters ranging from 1 to 14 were computed and the development of inner variance was plotted. There seemed to be no favourable number of clusters, as the inner variance decreased steadily. Managerial interpretation of 6 solutions (ranging from 4 to 9 segments) were conducted and the six cluster solution was chosen as most useful. Among the six segments that resulted, the segment named “culture tourists” were chosen for the purpose of illustration.

## **Advantages and drawbacks**

The geographic segmentation approach is popular for a number of valid reasons among NTOs: (1) The concept is simple and clear and can thus be easily understood by all members of the NTO. In the empirical example, Italian tourists were chosen. Membership to this group is absolutely unambiguous and there is no measurement problem in identifying this group. (2) Targeting is very easy due to the fact that advertising and promotion activities are limited to the borders of the nation chosen. The media landscape of only this nation has to be accounted for. Only one language is typically necessary for all the materials. (3) The danger of segments changing over time and those changes not being detected are minimal. Geographic target markets can easily be monitored in their development. (4) No advanced expertise in data analysis is needed. Once the tourists are split into the countries of origin simple frequency and means computation are sufficient to describe the target segment. Only if discrimination to other countries of origin is of interest to destination management is it necessary to conduct basic statistical tests. In the case of Italy it is easily computed that Italian visitors to Austria are younger than the other visitors, they spend fewer nights in Austria, they have higher vacation expenditures in general and higher expenses for entry fees to cultural attractions in specific. Italian tourists are found to have visited Austria significantly less frequently than visitors from other nations. However, there are no differences regarding the intention to return. Italians are not very fond of camping as overnight solution, they prefer hotels and they favour higher hotel star categories. The comparison of Italian vacation activities and activities of other nations is provided in Figure 1, where the columns indicate the percentage of Italian tourist undertaking each pastime and the lines represent overall sample average. Only minor deviations between these groups can be detected: Italian tourists spend less time swimming and bathing, relaxing, visiting spas and health facilities, surfing and sailing,

boating, mountaineering, participating in organised excursions and at so called "Heurigen", while engaging more in hiking, going out in the evenings, shopping, and participating in cultural activities.



*Figure 1: Vacation activity pattern for Italian tourists in Austria*

The disadvantages of geographical segmentation, however, include (1) the danger of mixing very heterogeneous tourists from the same country of origin and artificially treating them as one segment. In the case of the Italians, for instance, it might be very likely, that the entire segment consists of two subgroups: one that is very much into cultural activities and one that is into sports, hiking in particular. It is unlikely that the same individuals would go from one museum to the next, while having a hiking day in between. This underlying heterogeneity is not accounted for thus endangering any marketing communication not to be reaching either one of the possible subgroups.

Behavioural segments – or data-driven segments in general – have the following advantages: (1) They identify or construct segments on the basis of information that is evaluated as being highly relevant to the tourist service experience. For instance, vacation activities of interest to tourists are probably better messages to convey to potential visitors than addressing them using socio-demographic criteria. By constructing segments homogeneous with regard to those pieces of information that are assumed to be of most influence in a decision making process (destination choice process). With vacation activities representing an integral part of the tourist service encounter homogeneity in this respect is likely to be a stronger concept than homogeneity with regard to country of origin. The vacation activity pattern for the cultural tourist is provided in Figure 2. Clearly, this segment conveys a far more homogeneous picture and an advertising message (or a product package) for this segment would be much easier to design: the emphasis has to be on culture, culture and culture.

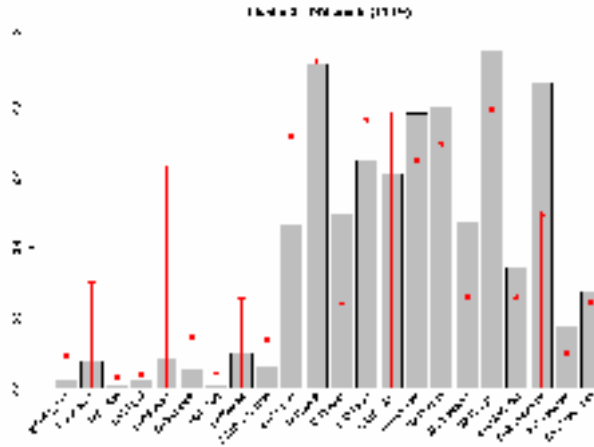


Figure 2: The culture tourist

Also the descriptive information demonstrates that the cultural tourists are very distinct: they spend the fewest nights in Austria: 8.6 nights on average. They pay much more for entry fees for cultural attractions than the other behavioural segments. Even in terms of total expenditures per person per day, the cultural tourists leave the highest amount of money of all segments in Austria per person per day. Furthermore, they tend to prefer high quality hotel accommodation, which becomes apparent from their over-representation in high hotel star categories. On the less attractive side stands a very low intention to return to Austria, with one fifth of the cultural tourists stating that that they cannot imagine that they would.

(2) Data-driven segments – as compared to geographical segmentations, not necessarily all *a priori* segmentations – are typically valid across borders. Cultural interests among tourist exist in many countries of origin and can be addressed in fundamentally the same way thus opening up a larger market to communicate with and attract. In the empirical case used for illustration here, the other nations contributing members to the group of cultural tourists are the French, Spanish, British and American. A campaign aiming at attracting cultural tourists could thus easily be adapted to suit all those nations.

Clearly, a number of disadvantages and dangers is associated with this approach: (1) The identification or construction of data-driven segments is less straightforward and numerous mistakes can be made along the way, leading to not only suboptimal but possibly completely random segment solutions. Most of the typical dangers have been comprehensively described by Dolnicar (2002). Thus, a substantial amount of expertise is needed to derive useful and valid data-driven segments. (2) Data-driven segments are more complex constructs and as such they are not as easy to understand. This leads to the necessity of increased communication effort within an NTO to assure full understanding of the target markets aimed at. And finally, (3) implementation of targeting action using data-driven segments is more complex: communicating with potential Italian tourists is not a difficult problem. In the case of data-driven segments, however, the task of optimally allocating the marketing budget (Mazanec 1996a and b), modifying the single messages to suit each particular cultural background is less trivial.

## Conclusions

There is no single best way to determine which market segments a NTO should be constructing and how the target segment should be chosen. Both *a priori* approaches and *a posteriori* techniques have numerous advantages and drawbacks, as illustrated in this paper. Clearly, one interesting option is to construct both data-driven and commonsense segments and investigate the association between them to gain the maximum possible insight into the market before selecting target segments, which usually represents a strategic, long-term management decision. In any case, it would be an improvement to present practise, if NTOs were informed about the various options of how segments can be identified or constructed. This would enable them to thoroughly investigate the options and make more informed strategic management decision.

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