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# New horses for old courses: Questioning the limitations of sustainable tourism to supply-driven measures and the nature-based context

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## Abstract

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## Keywords

Sustainable tourism, market-orientation


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# New horses for old courses.
# Questioning the limitations of sustainable tourism to supply-driven measures and the nature-based context

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## Abstract

It seems a general belief that (1) sustainable tourism is supply-driven, and (2) sustainable tourists are visitors engaging in nature-based travel activities. Results reported in this paper challenge these assumptions. Findings from an online survey indicate that nature-based travel is not solely related to environmentally protective attitudes. Market-driven mechanisms could therefore be used to strengthen ecological sustainable tourism. Only 39 % of respondents classified as 'Ecologically Caring Tourists' stated that an intense experience of nature is a motivation for their vacation travel behaviour.

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## Introduction

Sustainability is possibly one of the most researched aspects of tourism during the last decade. Academic research into tourism as ecologically sustainable development can roughly be classified into three groups. Studies aim at (1) quantifying the negative impacts of tourism on the environment from a business administration or economics perspective (typical examples include Driml, 1997; Gössling, 1999; Vail and Hultkrantz, 2000; Becken, Frampton and Simmons, 2001; Becken, 2002; Chan and Lam, 2002), (2) investigating reasons for non-environment-protective attitudes or behaviour within the tourism industry of host countries (typical examples include Barron and Prideaux, 1998; Wunder, 2000; Carlsen, Getz and Ali-Knight, 2001; Weiler and Ham, 2002), or (3) studying environmental policy and management as tools to protect the natural environment in host countries (typical examples include Hunt and Auster, 1990; Davis and Gartside, 2001; De Burgos-Jiménez, Cano-Guillén and Céspedes-Lorente, 2002; Page and Thorn, 2002).

Two fundamental assumptions underlie most of this work, as follows: (1) ecological sustainability is the responsibility of the supplier of the tourism product, and (2) ecological

sustainability is linked predominantly with nature-based forms of tourism.

We propose that both underlying assumptions are unnecessarily limiting and thus unduly restrict the scope of attempts to encourage or assure ecologically sustainable tourism. Such attempts include marketing programs aimed to attract tourists who have an active interest in protecting the host country's environment. Proper implementation of such programs requires that such tourists can be appropriately identified prior to travel in terms of their environmentally-friendly attitudes, opinions and behaviour. However, if such tourists exist independently of their travel context, ecological sustainability can be strengthened not only through the nature-tourism sub-segment, but across all forms of travel to a destination.

This study empirically investigates the above propositions by studying the differences between tourists who state that maintaining an unspoilt environment matters to them when they go on vacation and those who state that this is not the case. By doing so, two research aims are pursued: (1) to develop a profile of environmentally caring tourists in an Australian tourism context, and (2) to obtain empirical evidence for the importance of sustainable tourism beyond the nature-based tourism context. These two research questions are linked to the above stated assumptions in the following way: (1) if tourists can be identified who care about the environment of the host country; there is no necessity for supply-driven measures to be the only way to strengthen sustainable tourism. Instead, the range of approaches adopted by the tourism industry could be extended to include demand-driven, market-oriented measures such as market segmentation to attract tourists who will treat the environment carefully, and (2) if tourists exist who have a predisposition to treat the environment of the host community carefully and if such tourists can be found to undertake a wide variety of tourism activities beyond nature-based forms, then the restriction that sustainable tourism concerns only nature-based forms can be relaxed, thus opening up a much wider marketplace for strengthening sustainable tourism at a host destination.

## Data and Methodology

The data used to assess the above propositions was derived from a broader survey of discretionary expenditure behaviour focused on tourism spending by Australians (Crouch et al., in press). The survey was conducted online among an existing Australian permission-based panel. The survey was about 20 minutes long and resulted in 1,053 responses with a response rate of 38%. Some of the questions in the survey relating to the tourism motivations and behaviour of the respondents were taken from the Austrian National Guest Survey.
The profiling task of tourists who care about the environment was undertaken by splitting the sample into two a priori (Mazanec, 2000) segments. The question used to split the respondents was included in a set of statements which they were asked to evaluate and was worded as follows:

"On holiday the efforts to maintain unspoilt surroundings play a major role for me."
Binary data was used for analysis, where a "yes" indicates that a respondent identified with this statements and a "no" means that he or she does not. This is similar to the approach by Dolnicar (2004), who used the original Austrian National Guest survey data to profile environmentally responsible tourists in Austria.

Among the 1053 Australian respondents, 872 (83 %) responded with "no" and 181 (17 %) with "yes". The latter will be referred to as an "Environmentally Caring Tourist" (ECT)

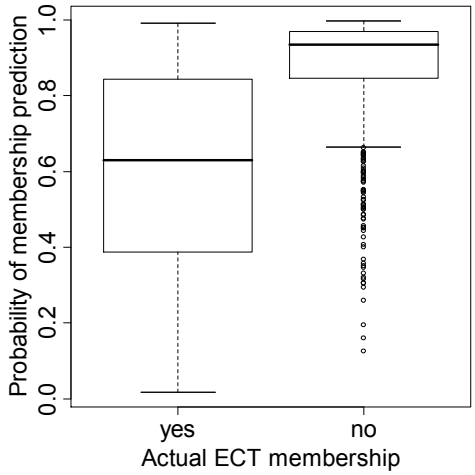
throughout the manuscript in order to reflect the attitudinal and not behavioural basis of the grouping.

Binary logistic regression was computed to determine whether the ECT membership could be predicted from other personal characteristics known from respondents. The variables to be included in the model were selected in the following way: first, a series of binary logistic regressions was computed in which each variable was eliminated from the model once. Then the one variable that contributed least to the explanation of ECT membership (based on the AIC criterion of the respective model) was eliminated and the next series of binary logistic regressions was computed, eliminating each of the remaining variables once. This process was continued until no more variables could be eliminated without reducing the AIC value. The quality of the resulting model was investigated by (1) testing it against the null model that contains only the intercept, and (2) testing the association of actual and predicted ECT membership. All computations and graphics for the analysis of the empirical data were undertaken using the R statistical software package (R Development Core Team, 2004) which is freely available at http://cran.r-project.org/.

## Results

The model comparison with the null model leads to the conclusion that the model predicts ECT membership significantly better than the null model (Residual Deviance for the Model = 669 with 995 df, Residual Deviance for the Null Model = 928 with 1018 df, Chi squared $p < 7.7e-42$). The test of association between the actual and the predicted ECT memberships tested significant as well (Chi squared = 206, df = 1, $p < 2.2e-16$), indicating that the association between the actual and predicted membership is not random. This is illustrated in Figure 1, where the actual membership is plotted against the predicted probability of not being an ECT. The association of the membership status and predicted membership status is clearly visible. Outliers occur mainly due to weak predictions of some non ECT-members.

**Figure 1: Graphical Evaluation of Model Prediction Quality**




The model coefficients of the final model are given in Table 1. ECTs differ from other tourists in the following variables: age, two variables regarding the kind of information they use during the vacation planning phase, seven motivation variables (see Table 2 for detailed figures) and their discretionary expenditures for home entertainment and overseas travel.

**Table 1: Binary Logistic Regression Coefficients**

| | Estimate | Std. Error | z value | Pr(>\|z\|) |
|---|---|---|---|---|
| (Intercept) | -5.66 | 0.84 | -6.77 | 1.30e-11 *** |
| AGE56-65 years | 0.67 | 0.44 | 1.52 | 0.128 |
| AGE46-55 years | 1.11 | 0.41 | 2.72 | 0.007 ** |
| AGE36-45 years | 0.96 | 0.41 | 2.32 | 0.020 * |
| AGE26-35 years | 0.98 | 0.41 | 2.37 | 0.018 * |
| AGE18-25 years | 1.55 | 0.46 | 3.34 | 0.001 *** |
| ACCOMMODATION | 0.00 | 0.00 | 1.65 | 0.099 . |
| INFO ADS | -0.75 | 0.31 | -2.38 | 0.017 * |
| INFO WOM | 0.39 | 0.21 | 1.81 | 0.070 . |
| INFO GUIDEBOOKS | 0.48 | 0.24 | 1.99 | 0.046 * |
| INFO WWW | 0.36 | 0.25 | 1.45 | 0.147 |
| MOTIVATION:LUXURY | -0.41 | 0.25 | -1.61 | 0.107 |
| MOTIVATION:SPORT | 0.70 | 0.30 | 2.36 | 0.018 * |
| MOTIVATION:CREATIVE | 0.63 | 0.41 | 1.53 | 0.125 |
| MOTIVATION:FREE | 0.80 | 0.21 | 3.84 | 0.000 *** |
| MOTIVATION:LOCALS | 0.51 | 0.22 | 2.27 | 0.023 * |
| MOTIVATION:NATURE | 1.47 | 0.24 | 6.14 | 8.07e-10 *** |
| MOTIVATION:ATMOSP | 0.51 | 0.27 | 1.90 | 0.058 . |
| MOTIVATION:NATURE2 | 1.36 | 0.23 | 5.98 | 2.22e-09 *** |
| MOTIVATION:CULTURE | 0.51 | 0.24 | 2.18 | 0.029 * |
| MOTIVATION:NOTRAFFIC | 0.94 | 0.29 | 3.21 | 0.001 ** |
| REDUCE DEBT | 0.00 | 0.00 | 1.81 | 0.071 . |
| HOME ENTERTAINMENT | 0.00 | 0.00 | 2.30 | 0.022 * |
| OVERSEAS TRAVEL | 0.00 | 0.00 | 2.87 | 0.004 ** |

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Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

AIC: 717.33, Number of Fisher Scoring iterations: 6

With respect to discretionary expenditure, ECTs are found to spend lower amounts on both home entertainment ($255 as opposed to $296 in an experiment where they had to allocate $2000 across a number of categories) and overseas holidays ($409 as opposed to $461). They are found less frequently among the youngest (18 to 25 years) and the oldest (over 65 years old) tourists and more frequently than expected in the age group of 46 to 55 years.

The motivations that are expressed more frequently by ECT tourists than this is the case for the non-ECT tourists indicate that doing sports, enjoying cultural offers as well as the natural environment is more important to them. The latter supports the traditional paradigm that the home of sustainable tourism is nature-based tourism. Furthermore ECTs emphasize a free-and-easy-going atmosphere, are interested in the life style of locals and care about being confronted with little traffic at the destination.

**Table 2: Significant Differences in Travel Motivations and Information Sources Used (in Percent of Segments)**

| Motivation | ECTs | Others |
|---|---|---|
| I want to do sports. | 17% | 10% |
| I put much emphasis on free-and-easy-going. | 62% | 36% |
| I am interested in the life style of the local people. | 51% | 22% |
| The special thing about my holiday is an intense experience of the nature. | 39% | 8% |
| When I choose a holiday-resort, an unspoilt nature and a natural landscape plays a major role for me. | 43% | 11% |
| Cultural offers and sights are a crucial factor. | 38% | 17% |
| When I choose a destination, it is important to me that there is little traffic in the village / town. | 21% | 7% |
| Advertisements in the media | 14% | 16% |
| Guide books | 28% | 16% |

Of high managerial relevance are the detected differences in information search behaviour. As can be seen in the bottom two rows of Table 2, ECTs do not pay as much attention to

traditional advertising in the media. Instead, they are heavier users of guide books as an information source. These variables give destination management guidelines about how to communicate with the market segment of ECTs that represents an attractive sub-segment of the total tourism market from a sustainability perspective.

## Conclusions, Limitations and Future Work

Based on a sample of respondents representative of the Australian population this study investigated whether market mechanisms, such as market segmentation approaches, could be used to strengthen the prevailing supply-oriented approach of ecologically sustainable tourism. Furthermore, the study also examined whether the underlying paradigm that ecologically sustainable tourism is strongly linked to nature-based tourism is supported. Respondents were split into two a priori segments based on whether or not they stated that efforts to maintain unspoilt surroundings play a major role for them during a vacation. Variables were determined that could successfully be used to predict which tourists are ECTs or not. This is essential in market segmentation, where not only the fact that tourists differ in the construct of interest is important but also the fact that they differ in other personal characteristics that can be used to develop a targeted marketing mix.

A simplified profile of the prototypical ECT as defined for the purpose of this investigation would be as follows: she or he is 46-55 years old, spends less discretionary money on home entertainment and overseas travel, uses guidebooks as a source of information for vacation planning, does not pay much attention to media advertisements and is motivated more than non-ECTs by a number of things, particularly nature, cultural offers, sport, a free-and-easy-going atmosphere, learning about the life style of locals and avoiding much traffic at the destination.

With respect to the research questions this leads to the conclusions that (1) a profile of ECTs can be developed that contains valid predictors of ECT membership. Sustainable tourism measures could consequently be extended from supply-driven to market-oriented measures. (2) While the ECTs have a strong interest in nature, which is in support of the traditional view of sustainable tourism, not all ECTs are nature-based tourists. If this were the case, the proportion of ECTs stating that they seek intense nature experiences should be higher than the 39 % of respondents that this analysis has found as seeking such an experience. ECTs therefore appear more broadly spread in terms of motivation and tourism contexts, thus supporting the notion that sustainable tourism could well be extended beyond the limited scope of nature-based tourism.

The main limitations of this study are (1) that the analysis is based purely on the stated identification with a statement rather than on actual or past environmentally caring behaviour, and (2) that the respondents were not asked for the main purpose of their trip which would have strengthened the argument of the context independent nature of ECTs.
Future work should therefore study profiles of ecologically responsible tourists based on actual environmentally-friendly behaviour rather than on stated identification with maintaining an unspoilt environment, and include more tourism-related information, in particular the main purpose of the trip and activities undertaken to provide destination managers with a more detailed picture of ECTs that they could use for targeted marketing activity.

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