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Tourists' understanding of sustainable tourism: An analysis in eight countries

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Abstract

The goal of this study is to learn more about tourists' understanding of sustainable tourism. The empirical survey with 6,000 respondents in eight countries identifies the most relevant aspects of sustainable tourism from a tourists' perspective. Overall the perception is balanced over the different dimensions. Furthermore, five different types regarding tourists' understanding of sustainable tourism are identified in a cluster analysis and a potential market size of sustainable tourism of 22% of all tourists can be identified.

Keywords

Sustainable tourism, understanding of sustainable tourism, perception, cluster analysis, demand, empirical survey,

Citation

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1. Introduction

Sustainability is becoming a more and more important issue in the tourism sector. Nowadays, it is well known that sustainability is an important subject for the tourism sector: On the one hand, natural and social resources such as landscape, flora and fauna, local culture, traditions, etc. are essential input factors for tourism. On the other hand, tourism often (over-)stresses these resources. In the worst case, this overstraining can lead to the self-destruction of tourism. Therefore tourism cannot only use these resources, but has to manage them carefully.

Nowadays, more and more sustainable tourism products are developed. However, often they are still niche products which are offered in the luxury segment. In order to have a greater impact, sustainable tourism products should also be offered in the mass market. Despite existing products, it is not really clear who belongs to the target group, how large the target group is and what the typical characteristics of customers of sustainable tourism products are. Furthermore, it is not well known what the potential customers' understanding of sustainable tourism is, i.e. what characteristics are important for them and should be considered when designing a new sustainable product in order to meet the needs of potential customers. Budaneau (2007) states that the knowledge about tourists' preferences is incomplete and hinders sustainable progress in the sector.

There are some empirical studies investigating the understanding of sustainability in general. One good example is the "Baromètre 2010" (Swisstainability, 2010) where the sensitivity and the behaviour of French-speaking Swiss nationals with regard to sustainability are surveyed. This study looked at what they know about sustainability and how their daily behaviour, and therefore also their consumption decisions, are influenced by this specific personal knowledge. Different sustainability types could be identified, which differ related to their behaviour, their affinity toward sustainability, and socio-demographic characteristics. Manget et al. (2009) proposes another typology focusing on the ecological dimension. They ask consumers about their understanding of green products. They ask about the assessment of different characteristics (attributes) of a product, for example the recyclability of a product. They find that consumers define green differently. For example, people from different countries of origin define it differently. In another study, Gilg et al. (2005) identify four sustainability types related to their attitude towards sustainability. These four types are called "committed environmentalists, mainstream environmentalists, occasional environmentalists, non-environmentalists".

Looking more specifically at the understanding of sustainable tourism, the definition and understanding of sustainable tourism from a tourist's perspectives is seldom discussed in the literature. Guyer and Pollard (1997) look at environmental quality and find that it is perceived differently by each tourist. Furthermore, they find that it differs not only with the individual, but also with the destination and the activity undertaken. However, there are no studies defining economic and social sustainability from a tourist's perspective.

The goal of this study is to learn more about tourists' understanding of sustainable tourism, because everybody talks about sustainability – including in the tourism sector. But what exactly is sustainable development from a tourist's perspective, how do tourists interpret the term sustainability and how do tourists assess the importance of sustainable development in tourism? These questions are hardly ever addressed in the scientific literature on sustainable tourism and therefore this study adds important new insights to the literature. To clarify these un-

answered questions, an empirical survey confronts tourists from eight countries with different statements which describe variable attributes of sustainable tourism.

It is important to note that the goal of this study is not to discuss the correct definition of sustainable tourism from a theoretical point of view. We are mainly interested in how travellers perceive and define sustainability. The empirical evidence should help in gaining a better understanding of the relevant aspects that should be considered when designing a new sustainable product. It is important to recognise the relevant aspects because first of all the fulfilment of the needs of sustainable tourists is essential for the success of a sustainable product on the market.

In a second step, and based on the results of the above mentioned empirical survey, different types of tourists relative to their understanding of sustainable tourism are identified. This typology puts tourists with a similar understanding of sustainable tourism together into one cluster. With the help of this typology and the shares of each type, interesting insights for tour operators, hotels and other companies who want to develop sustainable products can be derived, because knowledge about the importance of different types of customers and their understanding of sustainability is gained. This helps to address the needs of the customer in an efficient and more goal-oriented way, and to identify the most interesting group of potential customers for a specific new product. The methodology of this first empirical part of the study is explained in more detail in section 3.1.

The article is structured as follows: The attributes describing sustainable tourism which are selected for the first part of the empirical survey are presented in section 2. Section 3 presents the empirical survey and its results regarding tourists' understanding of sustainable tourism and the derived typology. Furthermore a ranking of factors influencing the booking decision is presented. This allows an initial insight to be gained into the market potential of sustainable tourism. Finally the conclusions are presented in section 4.

2. Attributes describing sustainable tourism

There are a lot of different definitions and interpretations of sustainable tourism in the literature. The definition of sustainable tourism from the World Tourism Organization UNWTO states that sustainable tourism is tourism that "meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to the management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems" (WTO, 1995, cited in Miller, 2003).² This definition is used for this study firstly because it is near to the famous sustainability definition of the Brundtland report (World Commission on Environment and Development, 1987), secondly, focuses on the key element of sustainability, i.e. the "the needs of the present without compromising the ability of future generations to meet their own needs", and thirdly addresses the three dimensions economy, ecology and society in which the attributes of this study are also grouped.

The attributes describing sustainable tourism used for the first part of the empirical investigation have been derived in an interdisciplinary way including most departments of the Lucerne University of Applied Sciences and Arts.³ The participating departments derived the relevant attributes from their specific perspectives, e.g. the department of social work proposed socio-

² We do not use the conceptual definition from the WTO (2004), because unfortunately this elaborate and long definition loses the clear focus from the definition presented above.

³ The departments involved are the department of business, social work, engineering and architecture, and art and design.

cultural and social attributes, etc. These proposals are based on an extensive literature research and on existing indicator systems for sustainable tourism. The major guideline to identify these attributes was the definition of sustainable tourism from the World Tourism Organization UN-WTO as presented above. The respective results were discussed in a workshop with all involved researchers. The approved result of this workshop is a list of 23 attributes to be included in the survey. These attributes are considered as most important and relevant for tourism and represent all dimensions of sustainability. In this chapter, they are briefly presented. First, the ecological attributes will be introduced before presenting the social and economic attributes. The articles from the various departments explaining the derivation of the attributes in detail can be found in the appendix.⁴

2.1. Ecological attributes

In general, the ecological attributes are the most discussed and therefore the most obvious ones to start with, since the environment, e.g. landscape, sea water quality, etc., is often perceived as having an important touristic value. However, we do not state that the ecological attributes are the most important attributes. All dimensions of sustainability should be considered as equally important.

Although climate change and the related emission of greenhouse gases is one of the most relevant ecological issues related to sustainable tourism, CO₂-emissions are not addressed separately, because CO₂-emissions are highly correlated with other aspects considered, e.g. traffic or energy use. Traffic caused by tourism is one of the most important issues in the ecological dimension. It has a significant impact on the environment: 60 to 95% of the environmental impact of leisure-tourism is due to transport (Goessling et al., 2005) and up to 90% of energy consumption in tourism is used for the outward and return journey (Müller 1995, cited after Baumgartner, 2008). Furthermore, traffic causes a number of problems: e.g. greenhouse gas and air pollutants emissions, intensified consumption of land, energy use, noise pollution or deterioration in the quality of landscapes (WTO, 2004). And traffic is the main factor in tourism which causes CO₂-emissions, accounting for 75% of tourism related CO₂-emissions (WTO, 2004). To mitigate these impacts one could consider either travelling by public transport, or to compensate the CO₂-emissions caused by the journey elsewhere or to stay longer at destinations that are far away. Therefore, the following three attributes concerning traffic are proposed:

1. *Sustainable tourism is characterised by a good provision of public transport to and from, and at the destination.*
2. *Sustainable tourism compensates the CO₂-emissions caused by the outward and the return journey through the support of climate protection projects which help to reduce CO₂-emissions.*
3. *Sustainable tourism encourages people travelling from far away to stay longer at the given destination.*

The energy source and the efficient use of energy as well as other natural resources are relevant for tourism. On the one hand, it is increasingly necessary to use renewable energy sources, if the scarcity of traditional energy sources such as oil, gas and coal is taken into account. On the other hand, energy and other resources such as water, building materials, etc. should be used in an efficient way to ensure an optimal inter-temporal allocation. Unfortunately, there are enough

⁴ The reports of the departments are the responsibility of those particular authors and express their own views about sustainable tourism from their specific perspective.

examples in the tourism sector where resources are used inefficiently⁵. A good example is the overexploitation of water in Tanzania (Goessling, 2001)⁶ which has led to a lowering of the groundwater table, to land subsidence, deteriorating groundwater quality and saltwater intrusion, negatively affecting the living conditions in coastal areas for the local population and for tourists. This example shows that overuse, and/or misuse of an environmental asset, has often not only ecological consequences, but also negative impacts on the tourism sector.

Ecological aspects are also often reflected from an architectural perspective. The compactness of buildings is one of the most important criteria of architectural sustainability because it facilitates energy-efficient operating concepts that react to claims for comfort and the utilised capacity. In order to manage a building in a resource-saving way, building management requires, on the one hand, an efficient management of heating and cooling energy, drinking and wastewater and, on the other hand, measures on the level of structure and building equipment such as intelligent equipment which allows the operating system to react to changing conditions. Furthermore, all resources that are necessary for the construction and deconstruction of buildings and infrastructure should be allocated optimally, i.e. the embodied energy⁷ should be minimised. This includes the careful selection of building materials, their regional provenance and the avoidance of harmful substances. Adequacy and comfort should also be considered: Sustainable buildings provide a comfortable climate, cosiness and functionality, which is adequate to the particular context and place, e.g. a hotel in the tropics should not cool down its rooms to 18 degree Celsius. Based on these arguments, the following four attributes are formulated.

4. *Sustainable tourism is characterised by the use of renewable energy sources.*
5. *Sustainable tourism has an operational concept for its infrastructure and buildings which ensures that resources, especially water and energy, are used in an efficient way, avoiding the unnecessary waste of resources.*
6. *Sustainable tourism optimises resource use (energy, water, building materials, etc.) necessary for the construction and deconstruction of infrastructure.*
7. *Sustainable tourism offers products with a level of comfort (food, heating, etc.) which are adapted to the local conditions (climate, sea level, etc.).*

Although the use of resources should be minimised, there will always be some amount of waste which cannot be avoided. Therefore, appropriate waste management (including wastewater) is important. This leads to an eighth ecological sustainability attribute.

8. *Sustainable tourism minimises waste output and ensures appropriate waste management and sanitation.*

Finally, biodiversity is an important aspect for all forms of nature based tourism because only a functioning ecosystem can guarantee a constant tourist flow, and biodiversity is a critical component of the natural environment. Moreover, the motivation of tourists visiting nature parks is to observe a large variety of animals. Therefore, it is essential to maintain this diversity.

9. *Sustainable tourism takes the preservation of biodiversity into account.*

⁵ The inefficiency concept includes the overuse of resources.

⁶ For more examples see the article on the economic and ecological attributes in the appendix.

⁷ Embodied energy is the sum of the non-renewable prime energy, which is needed for the fabrication and disposal of a material, for which the requirements for the fabrication and disposal are calculated separately.

2.2. Social attributes

There has been an increased awareness of aspects of social responsibility since the turn of the millennium and a growing discussion about social impacts of tourism has taken place. There are basically three groups of subjects which are important for the creation of social attributes of sustainability: human rights, community involvement and development, and respect for the needs and traditions of the local people.

The first group, aspects of “human rights”, focuses on the rights of an individual such as an employee or members of different minority groups. Concerning sustainable tourism, working conditions are an important aspect within this group.

10. *Sustainable tourism does not discriminate against either employees or guests due to nationality, age, gender, religion, disability and/or political beliefs.*
11. *Sustainable tourism has fair working conditions regarding working hours, health, safety and possibilities for continuing education.*

A special aspect of equality is the distribution of income. Tourism often leads to a higher regional income. Normally, higher income is assessed positively. However, an increase in regional income alone does not say much about sustainability, since it does not reflect its distribution. In fact, sustainable economic development should coincide with the improvement in the living conditions of poor people.

12. *Sustainable tourism enhances a more equal income distribution within the local community.*

With regard to social attributes, it is always important to consider the regional or rather the local context. The second group of arguments “community involvement and development” adds attributes such as employment of local residents, use of local and fair trade services and goods while paying an adequate and fair price, and local and owner-led hotels which fulfil environmental and social standards. These kinds of attributes can be categorised as social as well as economic attributes. In this study, they are listed among the economic attributes (see below). However, purely social attributes are also considered in this second group:

13. *Sustainable tourism involves the local community in the development of tourism.*

Even if the practical implementation of social responsibility within the tourism industry takes place in the target areas or within companies, the awareness and acceptance of the consumers is needed for the realisation and final success of sustainable products on the market. Therefore, all actions, and especially actions towards sustainable tourism, should be communicated transparently and freely.

14. *Sustainable tourism communicates transparently and credibly.*

The last group, “respect for the need and traditions of the local people”, regards the target communities in the tourism destinations. Cultural aspects are normally listed within the social dimension in the classic framework of the three dimensions of sustainability and are often neglected compared to other “traditional” social attributes such as those listed above. Some authors, e.g. Jon Hawkes (2001), believe that cultural aspects are vital for sustainability and should be discussed separately. Furthermore, culture is an essential feature of touristic offers

and an important pull factor of destinations to attract tourists. For example Rittichainuwat et al. (2008) find that cultural aspects are some of the most important pull factors for tourists traveling to Thailand.

As soon as a tourist enters a region or destination, he starts to contribute to changes within the local culture, willingly or unwillingly. The impact of tourists on the local culture is multifaceted and often happens unconsciously. This impact is often described as a unilateral process which consequently leads to a displacement and destruction of the local culture. However, the cultural impact of tourists is not necessarily negative. There are often positive aspects, for example an increasing equality within the local community. Nevertheless, sustainable tourism should take account of the cultural impact of tourists, minimise negative aspects and raise the awareness of tourists regarding their impacts on the local population and their culture by providing an insight into the local culture and the local, social and economic development of the destination.

15. *Sustainable tourism provides an insight into the local cultural, social & economic development and into the local community.*
16. *Sustainable tourism considers the impact of tourists on the local population and their culture, respecting the needs and traditions of the local population.*

Finally, the cultural heritage should be taken into account, for example buildings and monuments, including the landscape, because the cultural heritage and a nice landscape are often some of the most important assets of a destination. It is important to consider the landscape as part of the cultural heritage because humans actively shape it and have contributed to typical landscapes as for example the UNESCO world heritage Lavaux vineyards in Switzerland. If this landscape is lost, the touristic value decreases sharply. In order to sustain tourism based on these attractions, it is important to maintain them.

17. *Sustainable tourism places an importance on the upkeep of the scenic view of a place, as well as its cultural heritage.*

2.3. Economic attributes

Non-decreasing economic well-being (i.e. the increase or at least the preservation of economic well-being) is a major objective, if not the dominant objective, in the economic dimension. Non-decreasing well-being means that today's level of economic wealth should increase or at least stay constant over time. Other objectives, which can be sustainability criteria on their own, are – at least from the economic point of view – of secondary importance, for example maintenance of regional employment. In this context, such indices are measures more for reaching the main objective than objectives by themselves.

Other frequently mentioned attributes such as diversity of supplied services or a versatile and flexible infrastructure are stability factors which improve the probability of a continued maintenance of regional economic well-being with a small variance, i.e. a small probability of large negative outliers in regional income. A large diversity of supplied services for example, reduces the risk of being dependent on a specific market segment on the demand side, which also reduces the dependence on specific preferences of the tourists. Second, if one specific offer has to be omitted in the short or long term, (e.g. no snow during a winter season), touristic demand, and therefore regional economic well-being, is only partially affected. The same kind of reasoning holds for a versatile and flexible infrastructure: The more versatile and flexi-

ble the infrastructure, the easier it is to adapt it to the ever changing needs of tourists. Despite the superiority of non-decreasing economic well-being, these secondary attributes are also addressed in the study because they are important indicators for controlling the achievement of the main goal.

18. *Sustainable tourism contributes to the preservation of long-term regional economic well-being.*
19. *Sustainable tourism contributes to the maintenance of regional employment and the development of new jobs within the region, which also offer adequate wages.*
20. *Sustainable tourism offers a large variety of different and independent products.*
21. *Sustainable tourism has a versatile and flexible infrastructure.*

However, it should be noted that sustainability and sustainable tourism in the economic dimension do not mean that future economic opportunities in the tourism sector must not be harmed. Since the source of economic well-being is not of major importance, sustainability only requires that future economic opportunities in general are not harmed.

The leakage of tourism revenue to other regions or countries is an important aspect in the context of sustainable tourism. Revenue leakage may compromise the economic development of a host region and/or of the local population. If the greater part of the generated income (value added) is for the benefit of non-residents, the main economic sustainability criteria, i.e. the strengthening of the economic well-being, is at risk. Leakage rates can be substantial; e.g. 55% for developing countries (Boo, 1990), 50-70% for small island countries (Budaneau, 2005) and up to 99% for the destination *Komodo National Park* in Indonesia (Walpole and Goodwin, 2000, cited in Sandbrook, 2010). Hence, besides employing locals it is important to use predominantly local products and services and to encourage and support the entrepreneurship of locals.

22. *Sustainable tourism uses local products and services while paying an adequate and fair price for these products and services.*

Tourism is an important economic base for many poor developing countries, since tourism provides jobs, opens up (new) business opportunities and leads to imports of foreign currencies (WTO, 2004). Poverty alleviation through (sustainable) tourism could in general be subsumed under the above arguments concerning economic development and improvement, since economic development should be able to reduce poverty as a consequence. However, economic development is a necessary but not a sufficient condition for poverty alleviation, because it also has to be made sure that the poor and poorest benefit from the increased regional value added with respect to income as well.

23. *Sustainable tourism contributes to poverty alleviation within the destination.*

We believe that this list of 23 sustainability attributes covers the most important aspects of sustainable tourism and is therefore well suited to the empirical investigation of tourists' understanding of sustainable tourism. This enumeration is not conclusive and other sustainability aspects could have been incorporated, in addition to or replacing the proposed attributes.. However, we did not incorporate too many attributes in the empirical survey in order to keep the survey as easily understandable and as short as possible to ensure a high enough participation rate.

3. Empirical Survey and Results

The empirical method and the design of the survey is described in section 3.1, followed by the presentation of the descriptive statistics in section 3.2. The cluster analysis identifying the different types of tourists is presented in section 3.3. Finally a ranking of the factors influencing the decision to book a holiday allows estimating the potential market size of sustainable tourism by identifying sustainability aware tourists as an interesting target group in section 3.4.

3.1. Empirical Method

To clarify the tourists' understanding of sustainable tourism, an online survey was designed and carried out among travellers in eight countries. A pilot test was carried out in Switzerland in order to check the understanding of the proposed attributes and to test the whole questionnaire before the definitive survey took place.

The sample in the eight countries is a self-recruited random sample. The contacted persons are representative regarding the population of a specific country. Since only tourists who travel are allowed to answer the questionnaire, the sample of people finishing the survey is representative regarding the travelling population of a respective country and not regarding the whole population. Overall, 6,113 tourists answered the questionnaire completely. These respondents resulted from a random sampling from travelling people who are over 15 years old. The research was carried out with the following sample sizes⁸:

- Brazil: n = 750
- Germany: n = 752
- Great Britain: n = 751
- India: n = 755
- Russia: n = 769
- Switzerland: n = 750
- Sweden: n = 750
- USA: n = 836

The respondents were asked to assess the statements describing sustainable tourism as described in section 2 on a scale of 1 to 5, where the value 1 means "I strongly disagree" and the value 5 means "I strongly agree". Additionally, the usual socio-demographic questions and some question about travel behaviour were added. The socio-demographics of this sample and other descriptive statistics will be presented in section 3.2.1.

The empirical phase has shown that most of the attributes are well defined and clearly explained. Nevertheless, there are some attributes that might have caused difficulties to the respondents such as the attribute which describes the adapted comfort⁹ and the attribute that describes prolonged stays¹⁰. They were too complicated for most respondents to understand because they try to describe a complex fact in one sentence. Therefore, interpretations regard-

⁸ This sample size resulted because the contract between the Lucerne University of Applied Sciences and Arts and IPK guaranteed 750 respondents who completed the survey per country.

⁹ Sustainable tourism offers products with a level of comfort (food, heating, etc.) which are adapted to the local conditions (climate, sea level, etc.).

¹⁰ Sustainable tourism encourages people travelling from far away to stay longer at the given destination.

ing these two attributes should be made carefully and in most cases these two attributes are excluded from the analysis. Furthermore, it would have been interesting to separate the “up-keep of the scenic view and the cultural heritage”.

One of the goals of this study is to identify different types of tourists related to their understanding of sustainable tourism. For this purpose, a cluster analysis with the mean-component-method (varimax rotation) is conducted to derive a typology of different types with differing attitudes towards sustainability in tourism. In the following, some descriptive statistics are presented before turning to the cluster analysis.

3.2. Descriptive results

The basic socio-demographic statistics and the descriptive statistics related to the travelling behaviour are presented below in section 3.2.1, followed by the descriptive results of the rating of the attributes in section 3.2.2.

3.2.1. Socio-demographics

Table 1 presents the basic socio-demographic data. In the third column, the distribution over the whole sample is shown, whereas the following columns list the distribution for each country. In total 47.5% of the participants were women, the average age of a participant is 41 years, 67% of the respondents are married, most of the participants have an higher level of education and an higher level of income. The last two facts are caused by the fact that only people who travel are included in the sample, and only rich people who are normally also well-educated can afford to travel in less developed countries. Furthermore, older people are underrepresented, because the survey was conducted online.

It can be noted that with regard to the socio-demographics of the sample, there are some great differences between the countries (5% and more compared to the mean size). Although some of these country differences might be surprising, they are in line with the socio-demographics of the yearly World Travel Monitor and are again caused by the fact that this sample is only representative with regard to people travelling and not with regard to the whole population. Regarding gender there are more travelling women in the sample from Great Britain and Russia, more men from Brazil and India. The respondents from Brazil, India and Russia are younger, having an average age of 36. There are more travelling singles from Brazil and fewer from India.

In order to be able to compare the education of the respondents in the different education systems of the countries involved, the level of education is categorised into three levels of education, again according to the usual categorisation in the World Travel Monitor. A higher education means that they have at least been to a university, and a low level of education that the respondent has only visited a primary school or secondary school. There are many more respondents with a lower level of education from Germany and more from Great Britain; there are many more respondents with a middle level of education in Germany, Sweden and Switzerland and much fewer from India. Finally, there are many more with a higher level of education from Brazil, USA, India and Russia.

In order to be able to compare different incomes, four income categories according to the World Travel Monitor are constructed (lower, lower middle, upper middle, and upper income). These categories are built according to the distribution of the income in the country. For exam-

ple, the boundary between lower middle and upper middle income is the average income in the respective country. That is why with regard to some countries, most of those included are from the upper income group, because they are the only ones who have got enough money to travel.

| | | Total | Brazil | Ger- many | USA | Swe- den | Swit- zer- land | India | UK | Rus- sia |
|-------------------------------------|-----------------|--------------|---------------|----------------------|------------|---------------------|--------------------------------|--------------|-----------|---------------------|
| Gender | Female | 47.5% | 42.8% | 48.4% | 49.0% | 50.9% | 46.4% | 35.1% | 53.5% | 53.4% |
| | Male | 52.5% | 57.2% | 51.6% | 51.0% | 49.1% | 53.6% | 64.9% | 46.5% | 46.6% |
| Age | Average | 41 | 36 | 45 | 47 | 44 | 42 | 36 | 45 | 36 |
| Marital Status | Single | 33.0% | 45.6% | 30.5% | 32.7% | 33.1% | 29.7% | 27.9% | 32.2% | 32.4% |
| | Married | 67.0% | 54.4% | 69.5% | 67.3% | 66.9% | 70.3% | 72.1% | 67.8% | 67.6% |
| Level of educa- tion | Low | 6.7% | 3.5% | 19.5% | 3.1% | 8.0% | 5.2% | 0.0% | 12.4% | 2.7% |
| | Middle | 27.6% | 11.9% | 40.4% | 15.0% | 48.5% | 41.6% | 4.1% | 34.2% | 26.4% |
| | Higher | 65.7% | 84.7% | 40.0% | 81.9% | 43.5% | 53.2% | 95.9% | 53.4% | 70.9% |
| Level of income | Lower | 8.8% | 1.1% | 15.7% | 5.1% | 6.8% | 6.9% | 16.5% | 14.9% | 4.2% |
| | Lower Middle | 18.6% | 14.8% | 18.4% | 14.4% | 12.7% | 23.6% | 19.8% | 18.5% | 27.1% |
| | Upper Middle | 26.7% | 29.5% | 26.6% | 9.8% | 25.1% | 39.1% | 24.0% | 26.2% | 34.9% |
| | Upper | 46.0% | 54.6% | 39.4% | 70.7% | 55.5% | 30.4% | 39.8% | 40.3% | 33.8% |

Table 1: Socio-demographics

The respondents were also asked questions about their knowledge of sustainable tourism products, if they have ever booked such a product and, if they normally book their vacations online. 33.6% of the respondents know sustainable tourism products and 20.3% have already booked such a product, i.e. more than half of those who know a sustainable have already booked such a product. A high 67.7% of the respondents normally book online. This high share is explained by the fact that the survey was conducted online and therefore more internet literate people are included in the sample.

| | Total | Brazil | Ger- many | USA | Swe- den | Swit- zer- land | India | UK | Rus- sia |
|--|--------------|---------------|----------------------|------------|---------------------|--------------------------------|--------------|-----------|---------------------|
| Knowledge of sustainable tour- ism products | 33.6% | 42.9% | 34.2% | 18.2% | 19.5% | 33.9% | 59.9% | 14.8% | 47.2% |
| Booking of sus- tainable tourism products | 20.3% | 28.8% | 14.5% | 9.4% | 8.4% | 16.7% | 48.6% | 8.4% | 28.6% |
| Online booking | 67.7% | 77.2% | 55.7% | 76.0% | 83.3% | 63.6% | 73.0% | 80.3% | 32.6% |

Table 2: Knowledge of sustainable tourism products and booking behavior

3.2.2. Rating of the attributes

In the following we will identify the most important aspects by looking at the share of people who rate an attribute with either the value 5 (“I strongly agree”) or 4 (“I agree”) as shown in Figure 1- Figure 3 below. The overall perception is balanced over the different dimensions. The share of people agreeing is only below 50% for some economic attributes and for the attributes “prolonged stay” and “CO2-compensation”. The highest share of agreement is recorded for the attribute “scenic view / cultural heritage”. This is not surprising because landscape and cultural heritage are often a very important motivation to travel to a certain place and it is in the tourists own interest that they are well maintained.

The most important findings in each dimension will be briefly discussed, starting with the ecological dimension, as shown in Figure 1 where the attributes are ordered according to the list presented in section 2.

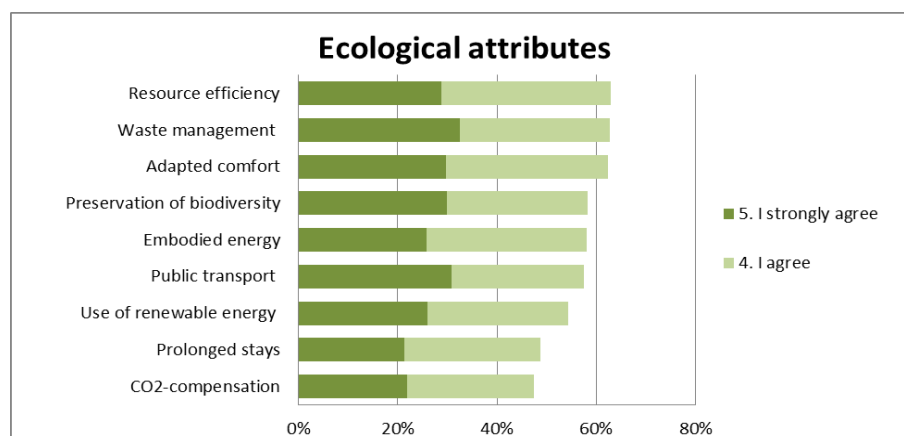


Figure 1: Ecological attributes of sustainable tourism products

From an ecological point of view, the attribute “resource efficiency”, i.e. the efficient use of resources, especially water and energy, avoiding the unnecessary waste of resources, is the highest rated attribute, with 63 per cent of the respondents in agreement, together with “minimisation of waste / waste management” (63%) and “adapted comfort” (62%), i.e. products with a level of comfort (food, heating, etc.) which is adapted to the local conditions (climate, sea level, etc.).¹¹ These attributes can be regarded as equally important, because the Sidak-T-test shows that there is no significant difference in the observed mean values on the 95% significance level.¹² However, the mean values of these three attributes are significantly different compared to all other ecological variables, which qualifies these three attributes as the most important topics in the ecological dimension. Comparing the characteristic of these top topics with the other attributes, we conclude that travellers rate what they can see, and/or experiences directly at the destination as more sustainable in the ecological dimension.¹³ The only exception is the provision of public transport which also directly influences holiday experiences.

¹¹ This result partially confirms the results from TripAdvisor (2010) which finds that the most important factors for a hotel to be considered green are energy and water, conservation and the use of recycled paper.

¹² The detailed statistical results of the Sidak T-test and all other statistical tests which are mentioned in this text are available upon request from the authors.

¹³ The last attribute that is related to the holiday experience is the availability of public transport. The mean value of this attribute is not statistically significantly different from the mean value of the three top topics. However, it is not listed among the top topics because the share of respondents agreeing is clearly lower.

It is an interesting result that CO₂-compensation was rated rather badly: CO₂-compensation is perceived as not sustainable by 53% of the respondents, although CO₂-emission is one of the hot topics in sustainability and most of the environmental externalities (i.e. CO₂-emissions) are caused by the journey to the destination. Another attribute with a high impact on the environment and which refers to the journey to the destination, i.e. prolonged stays, is also not seen as sustainable by most people, although traffic is one of the most important issues in the ecological dimension.

The most relevant attribute in the social dimension is “scenic view and cultural heritage” with 68 % of the respondents agreeing or strongly agreeing,¹⁴ followed by “involvement of local community” (65 %) and “considering impacts of tourists on locals” (64 %) and “no discrimination” (62%) (see Figure 2). Interestingly, equal income distribution is perceived as the least relevant aspect of sustainable tourism.

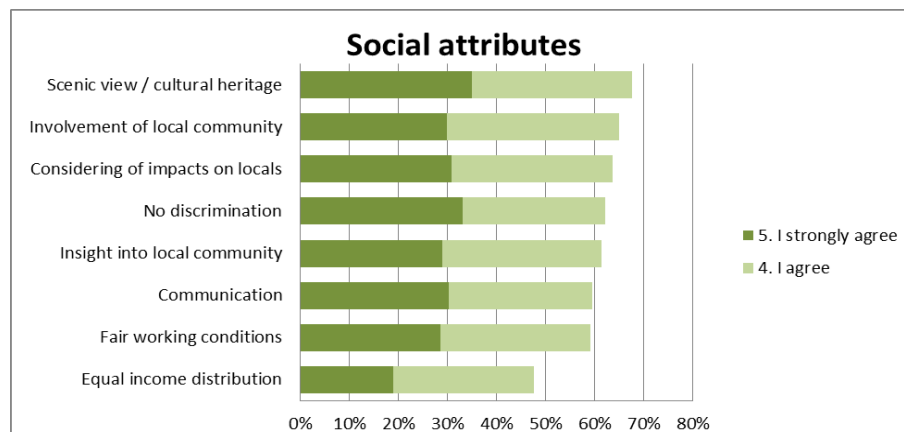


Figure 2: Social attributes of sustainable tourism products

Regarding the economic dimension, the use of local products and services, regional employment and long-term regional economic well-being are seen as relevant attributes for sustainable tourism by 66%, 64% and 62 % of the respondents respectively. This is not a straightforward result, because the economic dimension is often the least discussed and we therefore expected that economic attributes might not be as relevant compared to ecological and social attributes, since the latter ones are more often discussed in the public. The other economic attributes are perceived as less sustainable which is in line with our argumentation in section 2.3 of the long version of the article, that all other economic attributes than regional economic well-being are secondary economic attributes. However, the most important attribute in the economic dimension is the “use of local products and services” which supports the goal of a strengthening of the regional economic development. It is important to note that it is not a purely economic attribute because it includes social and ecological aspects.

¹⁴ This is confirmed by the Sidak T-test.

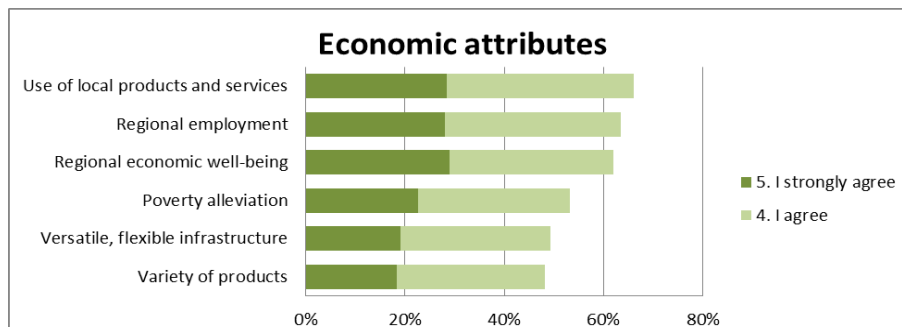


Figure 3: Economic attributes of sustainable tourism products

In general, it seems that local aspects are the most relevant attributes of sustainable tourism, since attributes referring to *local* products, *local* community and *local* culture are judged as most sustainable. The attributes referring to local aspects often address more than one dimension. For example, the use of local products ensures that income remains within the region (economic dimension), and lessens negative ecological externalities because they do not have to be transported from far away. Sims (2009) finds similar results focusing on the role local food can play within the holiday. She argues that “local food can play an important role in the sustainable tourism experience because it appeals to the visitor’s desire for authenticity within the holiday experience.” Local products link travellers to the region and give them the feeling of experiencing the destination and its specialties better.

3.3. Cluster Analysis: Typology of tourists with respect to their understanding of sustainable tourism

It is one of the aims of the study to identify different types of tourists who can be described by their different understanding of sustainable tourism. The factor analysis leads to a typology of five clusters. Before describing these types in section 3.3.2 the data analysis is described in section 3.3.1.

3.3.1. Data Analysis

The questions related to the understanding of sustainable tourism as described before are used to identify different types of tourists. A factor analysis is performed to identify the extent to which some questions seem to be capturing the same variables and the degree to which they could be reduced to a smaller set of factor attributes. A Cronbach alpha test is used to determine the internal consistency of each factor variable of the measurement instrument. The results obtained from this test indicate a high level of internal consistency. All final communalities are higher than 0.87, indicating a strong correlation between the indicators and the associated factors.

In order to find the correct clusters, the ratings of the different statements are factor analysed in a first step to assess their impact on different types of attributes. Principal component factors with an eigenvalue of one or greater are rotated by the Varimax analysis. Variables with loadings equal or greater than 0.50 are included in a given set of attributes to decrease the probability of misclassification. Bertlett’s test of sphericity and the calculation of Kaiser-Meyer-Olkin (KMO) statistics indicate if the data appears to be suitable for the identification of orthogonal factor dimensions. A total of 23 statements from the factor analysis results in three factor

groupings and explained 58% of the total variance. The results are presented in Table 3. The table shows which attributes belong to which of the three identified factors.

| Factors | Item-loadings | Mean* | SD | Eigenvalue | % of variance | Cum Pct |
|--|---------------|-------|------|------------|---------------|---------|
| Factor 1: Socio-economic factor | | 3.01 | | 5.43 | 23.6 | 23.6 |
| Regional economic well-being | 0.56 | 3.10 | 0.96 | | | |
| Poverty alleviation | 0.64 | 2.88 | 0.91 | | | |
| Use of local products and services | 0.62 | 3.18 | 0.88 | | | |
| Regional employment | 0.68 | 3.10 | 0.86 | | | |
| Equal income distribution | 0.65 | 2.83 | 0.85 | | | |
| Variety of products | 0.58 | 2.88 | 0.85 | | | |
| Flexible infrastructure | 0.58 | 2.89 | 0.81 | | | |
| No discrimination | 0.63 | 3.05 | 0.97 | | | |
| Fair working conditions | 0.71 | 2.98 | 0.87 | | | |
| Involvement of the local community | 0.66 | 3.14 | 0.86 | | | |
| Transparent and credible communication | 0.65 | 3.03 | 0.88 | | | |
| Factor 2: Ecological factor | | 3.15 | | 4.5 | 19.5 | 43.1 |
| Compensate CO2 emissions | 0.65 | 2.99 | 1.02 | | | |
| Use of renewable energy sources | 0.80 | 3.13 | 1.03 | | | |
| Preservation of biodiversity | 0.75 | 3.18 | 1.02 | | | |
| Minimise waste output | 0.76 | 3.24 | 1.03 | | | |
| Resource efficiency in operation | 0.72 | 3.25 | 1.00 | | | |
| Resource efficiency in construction | 0.68 | 3.11 | 0.96 | | | |
| Factor 3: Local factor | | 3.13 | | 3.5 | 15.2 | 58.3 |
| Adapted comfort | 0.60 | 3.17 | 0.97 | | | |
| Scenic view / cultural heritage | 0.61 | 3.29 | 1.01 | | | |
| Insight into the local community | 0.72 | 3.12 | 0.94 | | | |
| Prolonged stays | 0.61 | 2.93 | 0.98 | | | |
| Considering the impact on the local population | 0.55 | 3.20 | 0.95 | | | |
| Public transportation | 0.50 | 3.16 | 1.07 | | | |

KMO = 0.96, Bartlett 9'5183.25, p<001.

*Statements assess on a scale, ranging from 1 ("I strongly disagree") to 5 ("I strongly agree").

Table 3: Results of the factor analysis

The eleven statements loading on the first factor relate to the economic as well as the social dimension of sustainability. Thus, this factor is referred to as "socio-economic factor" (Cronbach's $\alpha = 0.93$). The second factor, as the most important dimension, is referred to as "ecological factor" (Cronbach's $\alpha = 0.90$) because the six statements loading highly on it, refer to holidays with a small impact on the environment. Five statements loaded on the third factor (Cronbach's $\alpha = 0.87$). As these statements relate to the motivation of knowing local aspects and aspects related to cultural attributes the third factor is referred to as "local factor".

In a second step, a cluster analysis is used in order to identify different types of tourist according to their understanding of sustainable tourism. The respondents are classified into different types based on their assessments of the three factor groups. To form the types, assessment scores on the three factors were used in a non-hierarchical K-Means clustering analysis.

The "proportional reduction of error" coefficient (PRE) and the F-Max test statistic are calculated for the cases of two to eight clusters in order to identify the optimal number of cluster

(Bacher 1996). Whereas the PRE point to a five- or seven-cluster solution, the F-Max test statistic indicates the five-cluster solution (see Table 4). An examination of the agglomeration coefficient for hierarchical cluster analysis using Ward's method indicates a five-cluster solution as well. The similarity of the results from the two methods confirms the existence of five clusters.

| Number of clusters | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|--------------------|--------|--------|--------|--------|--------|--------|--------|
| PRE | 0.25 | 0.18 | 0.18 | 0.16 | 0.07 | 0.13 | 0.08 |
| F-Max | 924.68 | 884.11 | 934.05 | 972.38 | 878.68 | 913.03 | 886.97 |

Table 4: Test statistics for two- to eight- cluster solutions.

3.3.2. Typology

Looking at the final cluster centres, five types who differ in their understanding of sustainable tourism are identified (see Table 5). An overview of these different types shows two major groups: the balanced type and its opposite, the sceptic (57.6 % in total). The balanced type (cluster 1 in Table 5) has an above average share of agreement (values of 4 and 5) in all dimensions, and the sceptic type (cluster 2) has below average shares in all dimensions. Furthermore, there are three strong minorities: the socio-economic (cluster 3), localised (cluster 4) and ecological type (cluster 5) which incorporate a share of totally 42.4 % of the respondents. These three types put stronger emphasis on some aspects of sustainable tourism, i.e. the ecologists (15.1 %) considers ecological aspects to be particularly relevant for sustainable tourism. The localised type (15.0 %) considers local aspects and aspects related to cultural attributes as being especially important. The socio-economic type (12.3 %) favours the other social attributes (except the cultural attributes) and the economic attributes proposed in section 2.

| Factor | Cluster means* | | | | |
|---------------------------|----------------|------------|------------|------------|-----------|
| | Cluster 1: | Cluster 2: | Cluster 3: | Cluster 4: | Cluster 5 |
| Socio-economic | 0.65 | -0.70 | 0.60 | 0.19 | -0.93 |
| Ecological | 0.54 | -0.64 | 0.14 | -1.10 | 0.85 |
| Localised | 0.44 | -0.61 | -1.07 | 0.85 | 0.09 |
| Cluster size | 1994 | 1530 | 751 | 916 | 922 |
| Percentage of respondents | 32.6% | 25.0% | 12.3% | 15.0% | 15.1% |

Table 5: Results of the Nonhierachical Cluster Analysis¹⁵

The *balanced type* seriously observes all three dimensions and has above average shares of agreement in all dimensions: Perhaps it is not possible to respect all three dimensions in every single decision of everyday life, but this type tries to find a balance between them in the course of time. Tourists from the balanced type more often know sustainable tourism products and book them more often than tourists from other groups. The socio-demographic structure of the balanced type as a whole is influenced by a high percentage of respondents from Brazil and India and their exceptional situation of high levels of education.¹⁶ The knowledge about and the

¹⁵ The cluster descriptions are based on normalized factor scores with a mean of zero and a standard derivation of one.

¹⁶ Since only tourists are included in the sample, people with a high income and higher education are overrepresented in our sample from Brazil, and people with a higher education from Russia and India. This is consistent with the shares that were obtained for the World Travel Monitor 2009 and is not a surprising result, because in these countries not all people have the possibility to travel due to too small incomes. Furthermore it should be noted that only people having internet access could be interviewed, which caused the overrepresentation of young people in most countries. This explains the surprisingly low share of respondents with a higher income level compared to the high share of respondents with a high level of education

affinity towards sustainability is logically higher compared to the other types (see Figure 4). Furthermore, it is interesting to note that the older a traveller is, the higher is the probability that he belongs to the balanced type. There are also only small differences between genders, as is observed for most of the types below. This confirms findings from Rheem (2009).

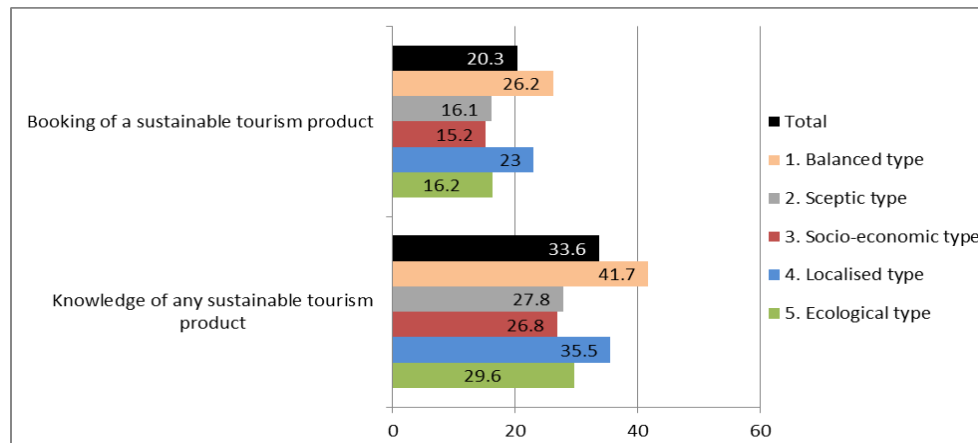


Figure 4: Knowledge of sustainable tourism products and booking behavior of the types

The *sceptic type* has a critical attitude, and rates all attributes clearly lower, i.e. agrees much less with the statements about sustainable tourism in all dimensions. One possible reason could be that these people find the proposed attributes not strict enough, i.e. they are not sustainable enough for them. Another possible reason is that these people find the idea too complicated or too sophisticated. Furthermore some of the sceptics might think that the related problems, for example of climate change, are not so dangerous or that one person alone cannot have any effect on such global problems and that it is the responsibility of politicians and the states.

The sceptical feeling towards sustainability is more widespread in some of the Western countries such as Germany, Sweden, Great Britain and the USA. Sustainability is more often discussed in the public in these countries than in developing countries. Therefore, travellers more often reflect the concept of sustainable tourism and are able to assess it more critically and/or have higher requirements towards the term sustainable tourism. It is also noteworthy that men are overrepresented among the sceptics and that there is an above average share of sceptics among young travellers. The sceptics are according to their critical evaluation of sustainable tourism also a little less likely to book sustainable tourism products.

The *socio-economic type* particularly considers the social and economic dimension: These people are focused on good relations and partnerships between human beings. It seems to be clear that the socio-economic type recognises better than the other types – apart from the balanced type – the links between sustainability and poverty alleviation and long-term regional economic well-being. The socio-economic type hopes more than the other types that sustainable tourism leads to a more equal income distribution within the local community. For the socio-economic type, sustainable tourism does not discriminate against either employees or guests on grounds of nationality, age, gender, disability etc., offers fair working conditions (working hours, health, safety) and offers the possibilities for continuing education are important aspects of a sustainable tourism. The involvement of the local community in the development of tourism is seen as an integral part of sustainable tourism. From the point of view of a socio-

from Russia and India. Another explanation of this is that there are much more young people who are still students and/or do not earn a lot of income in the Russian and Indian samples.

economic type, sustainable tourism should contribute to the regional economic well-being, to the maintenance of regional employment and the development of new jobs within the region, which also offers adequate wages, and it should use local products and services while paying an adequate and fair price. Finally, credible and transparent communication is important for the socio-economic type.

The socio-economic type is quite in the average regarding socio-demographic characteristics. The only particular socio-demographic characteristic is the small overrepresentation of men. Interestingly, there are more socio-economic types in Britain and fewer in Russia. Generally, fewer of the socio-economic type know sustainable tourism products and have ever booked a sustainable product.

The *localised type* especially rates the attributes related to local aspects of sustainability and to culture as relevant for sustainable tourism. They want to enjoy an authentic holiday experience. Sustainable tourism offers interesting cultural experiences which are authentic and match with the history and traditional culture of the region without simply conserving it. It is important for them that sustainable tourism provides an insight into the local cultural, social and economic development and into the local community and that it considers the impact of tourism on the local population and their culture, respecting the needs and traditions of the local population. Furthermore, the cultural heritage should be taken care of, for example buildings and monuments, including the landscape. The *localised type* also wants to enjoy local products, be part of the local community and be sure that the local community is involved in and benefits from tourism. Additionally, this type also agrees with the importance of a good provision of public transport to and from and at the destination, although he has very low shares of agreement for the other ecological attributes, which for some attributes such as “use of renewable energy” are even below 10%.¹⁷ The localised type is a type that is prevalent in Russia, and more women and slightly fewer of the upper income bracket are among the localised type.

The *ecological type* values in particular the ecological dimension: The relationship between humans and nature or the environment is fragile. Taking care of the environment and a better and efficient management of energy and other resources is crucial. This type has a remarkably high share of agreement with CO₂-compensation (67%).¹⁸ Besides estimating the environment, the ecological type also often considers the upkeep of a landscape and the cultural heritage as relevant for sustainable tourism as well as the other two main attributes of the localised type, “insight into local community and culture” and “considering of impacts on locals and their culture”. However, the other social attribute as well as the economic attributes¹⁹, are judged less relevant for sustainable tourism. 15% of the respondents belong to the ecological type.

The typical ecologist is characterised by an upper educational and income level and a higher age. Furthermore, the political importance of the ecology in the country of the respondent seems to have a positive influence as there are, for example, more ecological types from Switzerland. However, slightly fewer people of the ecological type know sustainable products have already booked a sustainable tourism product.

¹⁷ From the ecological dimension, the attributes “prolonged stay” and “adapted comfort” are also assigned to the cultural type. These two attributes are not considered in the discussion of the types, since there are some doubts whether the respondents have correctly understood the meaning of these two attributes.

¹⁸ Only the balanced type has a higher share of agreement with CO₂-compensation with 79%, whereas only 13% of the cultural type, only 12% of the sceptic type and 54% of the social type agree with it.

¹⁹ The only exception in the economic dimension is the attribute “use of local products and services”, which is considered as relevant by all types apart from the notorious sceptic type.

3.4. Identifying sustainability aware tourists: factors influencing the decision to book a holiday

In addition to the understanding of sustainable tourism, the people questioned were also asked how important sustainability is among other aspects when they book vacations. Therefore, the respondent had to rank eight aspects that are relevant for booking decisions. Before sustainability is considered in the decision to book a holiday, other factors are of importance: Tourists want to be sure that the weather/climate fits their need, that the price is good, that they can easily travel to the destination, etc. Sustainability is consequently second last in the resulting ranking:

1. Weather/climate
2. Price
3. Accessibility to and from the destination
4. Local culture
5. Landscape
6. Food
7. Sustainability
8. Local activities

In general, the ranking above does not offer evidence for sustainability being important in booking decisions. The classical criteria such as “weather/climate”, “price”, and “accessibility to and from the destination” are clearly the most important ones. However, for 22% of the respondents, sustainability is among the top three factors. This 22% of respondents can therefore be considered as an important target group for sustainable tourism. We will call these tourists who represent the key target group for sustainable tourism the “sustainability aware tourists”.

If we look at the share of respondents who rank sustainability among the top three factors influencing their decision to book a holiday at the level of each cluster, the following shares are observed:

- 26 % of the balanced type
- 20 % of the sceptic type
- 21 % of the socio-economic type
- 18 % of the localised type
- 18 % of the ecological type

This is evidence that the balanced type has the highest potential to buy sustainable products which is confirmed by the fact that, by looking at the booking behaviour in the past, the balanced type could be a key type for selling sustainable tourism products²⁰. It is surprising that a higher share of sceptics rank sustainability among the top three factors compared to the ecological who are actually more sensitive to sustainable tourism when we look at the ratings of the attributes. Some sceptics actually consider sustainability as important when booking, but are very critical when assessing if a product is sustainable.

The ranking of factors influencing the decision to book a holiday does not show large deviations from the average over the whole sample:

1. Sustainability
2. Weather / climate

²⁰ However, looking at the booking behaviour in the past, also the localised type could be called a key type for selling of sustainable tourism products. But they do not have a potential for increasing the market share since only 18% belong to the sustainability aware tourists.

3. Accessibility
4. Price
5. Local culture
6. Landscape
7. Food
8. Local activities

Sustainability is the most important factor. The order of the other factors has not changed, except that price is less important than accessibility and no longer belongs to the top three factors.

In general, the sample of sustainability aware tourists is characterised by a slightly higher rate of agreement with the attributes describing sustainable tourism, compared to the sample including all respondents. However, the sustainability aware tourists consider mostly the same attributes as most relevant as the average respondent of the whole sample. The higher rate of agreement can be explained by the higher share of the balanced type compared to the total sample including all respondents (see Figure 5).

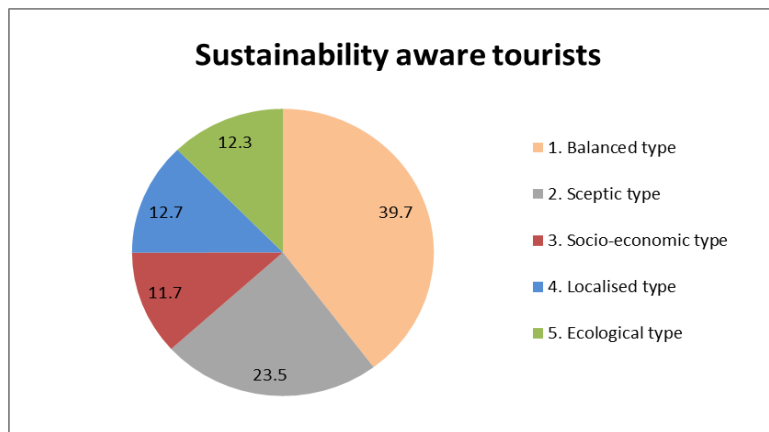


Figure 5: Types of sustainable aware tourists with respect to their understanding of sustainable tourism

Besides the clearly greater share of balanced types, the shares of the sceptic type and the localised and ecological types are slightly lower. However, we cannot identify a typical type which is clearly more likely to consider sustainability in his/her booking decision. All types are still considerably represented. It can therefore be concluded that the consideration when booking is mostly independent of the sustainability type. However it should be kept in mind that different aspects of sustainable tourism are important for the different types which will influence their booking behaviour when they face a real sustainable tourism offer. An ecological type, for example, is more likely to book a product that is sustainable from an ecological point of view but does not explicitly consider economic aspects.

4. Conclusions

In this study, tourists' understanding of sustainable tourism has been investigated with over 6,000 respondents from eight countries. In general, tourists are well informed about the important aspects of sustainable tourism. The main descriptive findings of the first empirical phase on tourists' understanding of sustainable tourism are:

- The overall perception is balanced over the different dimensions. There is no clear prioritisation of a dimension. The share of people agreeing to the statements about sustainable tourism is only for some economic attributes and for the attributes "prolonged stay" and "CO₂-compensation" below 50%.
- The attribute "upkeep of a scenic view and the cultural heritage" is assessed as most sustainable. Generally, attributes referring to *local* products, *local* community and *local* culture are judged as most sustainable.
- Tourists rate what they can see, and/or experiences directly at the destination as more sustainable in the ecological dimension.
- For 22 % of the respondents, sustainability is among the top three influencing factors while booking vacations.

Five different types regarding tourists' understanding of sustainable tourism are identified:

- The *balanced type* seriously observes all three dimensions and has above average shares of agreement in all dimensions. 33% of the respondents belong to the balanced type.
- The *sceptic* has a critical attitude and rates all attributes clearly lower. 25% of the respondents belong to the sceptic type.
- The *socio-economic type* rates in particular the social and economic dimension. 12% of the respondents belong to the socio-economic type.
- The *localised type* rates especially the attributes related to local aspects of sustainability and to culture as relevant for sustainable tourism. 15% of the respondents belong to the localised type.
- The *ecological type* considers in particular ecological aspects to be relevant for sustainable tourism. 15% of the respondents belong to the ecological type.

This study concludes that sustainable tourism is an interesting market segment with a target group of 22% sustainability aware tourists. These tourists consider sustainability as important when booking a holiday. If a providers of touristic offers wants to approach potential customers of sustainable products, the knowledge of the types of tourists are important because it helps to understand how to approach these potential customers. The different types could be approached as follows:

- A product which should be advertised to the balanced type should be balanced over all dimensions of sustainability.
- The sustainability of a product should be documented clearly and traceably in a product which has the sceptic type among its target groups, because they are sceptical and need information in order to be convinced.
- A product for the ecological type should especially include ecological aspects.
- A product for the localised type enables the enjoyment of an authentic holiday experience, focusing on local and cultural aspects of sustainable tourism. It especially considers local products and the involvement of the local population, and allows for insights into the local community. Finally cultural aspects are emphasised.

- A product for the socio-economic type should in particular include aspects of the social and economic dimension.

The balanced type has the highest potential to buy sustainable products which is confirmed by the facts that the balanced type has the highest share of people having already booked a sustainable and the highest share of sustainability aware tourists. The socio-economic and ecological types are target groups where the market share of sustainable tourism product could be expanded by a target group oriented development of new products, whereas it could be difficult to develop a new sustainable product which convinces the sceptic type.

5. References

- Bacher, J. (1996): *Clusteranalyse*, 2nd edition. München-Wien.
- Baumgartner, C. (2008): *Nachhaltigkeit im Tourismus. Von 10 Jahren Umsetzungsversuchen zu einem Bewertungssystem*, Innsbruck, Wien, Bozen: StudienVerlag.
- Boo, E. (1990): *Ecotourism: The Potentials and Pitfalls*, Washington DC: World Wildlife Fund.
- Budaneau, A. (2005): "Impacts and responsibilities for sustainable tourism: a tour operator's perspective", *Journal of Cleaner Production*, 13(2), pp. 89 – 97.
- Gilg, A., Barr, S. and Ford, N. (2005): "Green consumption or sustainable lifestyles? Identifying the sustainable consumer", *Futures*, 37, pp. 481 – 504.
- Goessling, S. (2001): "The consequences of tourism for sustainable water use on a tropical island: Zanzibar, Tanzania", *Journal of Environmental Management*, 61(2), pp. 179 – 191.
- Goessling, S., P. Peeters, J.-P. Ceron, G. Dubois, T. Patterson and R. B. Richardson (2005): "The eco-efficiency of tourism", *Ecological Economics*, 54, pp. 417 – 434.
- Guyer, C. and Pollard, J. (1997): "Cruise visitor impressions of the environment of the Shannon-Erne waterways system", *Journal of Environmental Management*, 51(2), pp. 199 – 215.
- Hawkes, J. (2001): "The Fourth Pillar of Sustainability. Culture's essential role in public planning", Melbourne: University Press.
- Manget, J., Roche, C. and Münnich, F. (2009): "Capturing the Green Advantage for Consumer Companies", Boston: Boston Consulting Group.
- Miller, G.A. (2003): "Consumerism in Sustainable Tourism: A Survey of UK Consumers", *Journal of Sustainable Tourism*, 11(1), pp. 17 – 39.
- Rheem, C. (2009): "PhoCusWright's going green: The business impact of environmental awareness on travel", Sherman: PhoCusWright Inc.
- Rittichainuwat, B. N., H. Qu, and C. Mongkhonvanit (2008): "Understanding the motivation of travelers on repeat visits to Thailand", *Journal of Vacation Marketing*, 14(1); pp. 5 – 21.
- Sandbrook, C. G. (2010): "Putting Leakage in Its Place: The Significance of Retained Tourism Revenue in the Local Context in Rural Uganda", *Journal of International Development*, 22(1). pp. 124 – 36.
- Sandbrook, C. G. (2010): "Putting Leakage in Its Place: The Significance of Retained Tourism Revenue in the Local Context in Rural Uganda", *Journal of International Development*, 22(1). pp. 124 - 136.
- Sims, R. (2009): "Food, place and authenticity: local food and the sustainable tourism experience", *Journal of Sustainable Tourism*, 17, 3, pp. 321–336.
- SNV (2009): "The market for responsible tourism products - with a special focus on Latin America and Nepal", SNV Netherland Development Organisation, online (8.10.2010), <http://www.snvworld.org/en/Documents/The%20Market%20for%20Responsible%20Tourism%20Products.pdf>
- Swisstainability (2010): "Baromètre 2010 - Le développement durable & les Suisses, online (20.7.2010), (www.swisstainability.org.)
- TripAdvisor (2010): "TripAdvisor Travelers Keen on Going Green", Press release, online (19.07.2010), (http://www.tripadvisor.com/PressCenter-i134-c1-Press_Releases.html).
- World Commission on Environment and Development (1987): "Our Common Future", Oxford: Oxford University Press.
- WTO, World Tourism Organisation (1995): "What Tourism Managers Need to Know: A Practical Guide to the Development and Use of Indicators of Sustainable Tourism", Madrid: UNWTO.

WTO, World Tourism Organisation (2004): “Indicators of Sustainable Development for Tourism Destinations – A Guidebook”, Madrid: World Tourism Organisation.

World Tourism Organisation (2010): “Sustainable Development of Tourism, Concepts & Definitions”, online (23.7.2010), (<http://www.world-tourism.org/sustainable/concepts.htm>).