



Consumer Attitudes and Booking Intentions towards Carbon-Reduced Holiday Packages

A THESIS FOR THE BACHELOR OF SCIENCE TOURISM

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I hereby declare that this thesis is wholly the work of Francis Jansen. Any other contributors have either been referenced in the prescribed manner or are listed in the acknowledgements together with the nature and the scope of their contribution.

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Abstract

Tourism makes a significant contribution to climate change and without any action the negative effects will keep growing. Tour operators can play a substantial role in climate change mitigation. While tour operators consider to offer carbon-reduced holidays, little is known about the consumer response to those holidays. Therefore, this thesis aims to explore the consumer reaction to carbon-reduced holidays. An experimental design explored the role of carbon footprint, a carbon label and price in the booking experience. The results indicate that the carbon footprint of a holiday does not have an effect on consumer's attitudes and booking intentions. Individually the carbon-label and price do not have an effect either, but in combination they have a significant effect: a higher price is less accepted when there is a carbon label alongside the holidays than when there is no label. This research shows that consumers accept carbon-reduced holidays like they accept normal holidays. Therefore, tour operators can include carbon-reduced holidays in their offer. Using a carbon-label should be done with caution, since its use can be counterproductive. This thesis contributes to the literature on the consumer-side of carbon-reduced holidays by providing new insights into their attitudes and booking intentions of such holidays.

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1. Introduction

Tourism contributes substantially to climate change. Without any action from the tourism sector, the negative effects on climate change will keep growing (Amelung et al., 2007). Tourism has grown and changed a lot over the past couple of decades. The activity of 'going on a holiday' has changed from a luxury good to a basic need of life for most people. Nowadays, tourists travel more often and travel further away to fulfil this need to travel. After the financial crisis of 2009, international arrivals have been increasing by 4% every year (UNWTO, 2016). Tourism activities, in particular flights and accommodation, need structural carbon footprint reduction to be sustainable (Strasdas, 2010). Tour operators are at the centre of the tourism sector and have the ability to play a substantial role in climate change mitigation (Budeanu, 2005; Tepelus, 2005; Van Wijk & Persoon, 2006; Sigala, 2008; Adriana, 2009).

While tour operators consider to adjust their offer by selling carbon-reduced holidays, little is known about the consumer response regarding these carbon-reduced holidays. Current research mainly looks at carbon-labels, which are "communication systems intended to influence consumer behaviour towards greater consideration of environmental concerns" (Gössling & Buckley, 2016, p.359), as a means of communication of carbon reduction on holiday packages (Eijgelaar et al., 2016). The focus seems to stay on carbon-labels, since they are viewed as a potential contribution to more sustainable development (Eijgelaar et al., 2016). Alternative approaches and combinations of approaches have been ignored until now. Furthermore, available research is very much focussed on how consumers react on a certain label and on how tour operators should implement label-based strategies. Even though research has not been directed towards the actual booking experience the consumer goes through and how communications or non-communications affect them in this experience, tour operators need such information to make carbon-reduced holidays a successful product.

This research will therefore look at attitudes and booking intentions of consumers towards carbon-reduced holidays. With an experimental design, this research will fill the current knowledge gap about consumer response to different ways of providing carbon-reduced holiday packages. Furthermore, this research is of practical relevance for tour operators: the results on consumer responses towards carbon-reduced holidays can be used to their advantage when they are introducing carbon-reduced holiday packages to their consumers. This paper will show the results of an experiment with a questionnaire that has been distributed amongst consumers of holiday packages and will deal with the implications of those findings for tour operators.

2. Literature Review

2.1 Climate Change and Mitigation

The tourism sector makes a significant contribution to climate change (Amelung et al., 2007). When looking at global CO_2 emissions, tourism plays a substantial role: about 5% of emissions comes from the tourism industry (WTO & UNEP, 2008). Most of the emissions from tourism can be assigned to transportation, which accounts for about 75% of the emissions of the tourism sector. The remaining part of the emissions is made up of accommodation, which produce about 20% of the emissions, and

the last part consists of emissions coming from activities (Strasdas, 2010). It is not very surprising that the tourism industry plays a considerable role in the global CO_2 emissions, since historically economic growth – the tourism sector has grown exponentially in last decades – goes hand in hand with environmental degradation (Lee & Brahmasrene, 2013). To deal with the issue of climate change, climate change mitigation is often put forward as an option. Climate change mitigation strategies refer to strategies that organisations take to reduce the CO_2 emission in their practices (Cadez & Czerny,2016). Common mitigation strategies that are heard in the tourism sector include more fuel-efficient air travel, moving towards using alternative energy sources, and lowering the carbon footprint of products or services (Weaver, 2011).

2.2 The Role of Tour Operators in Climate Change Mitigation

Within the travel industry the tour operators play a key role: they are the main link between suppliers and consumers. With their main activity of bundling different types of tourism products and services – like transportation, accommodation and activities – into tour packages they have been at the centre of the tourism industry for a long time now (Sheldon, 1986; Tepelus, 2005; Sigala, 2008). Tour operators offer many advantages for both suppliers and consumers. For suppliers the tour operators offer an increased occupancy rate and a reduction of costs, while for consumers they offer a complete tourism experience that can be purchased in one package for a competitive price (Sheldon 1986, Sigala 2008). Even though the Internet made it possible for consumers and providers to get in contact more directly (Standing et al., 2014), tour operators continue to grow in a fast rate: TUI Group's average growth has been over 10% per year since 2014 (TUI Group, 2016). Another large tour operator in Europe, Thomas Cook Group, has an average growth of 4% per year since 2014 (Thomas Cook Group, 2016). This indicates that tour operators have been and still are important players in the travel industry.

With their central role in the travel industry, tour operators have the ability to play a substantial role in climate change mitigation actions (Budeanu, 2005; Tepelus, 2005; Van Wijk & Persoon, 2006; Sigala, 2008; Adriana; 2009). The increased awareness of the negative climate effects that tourism practices can have, has led to a critical role of environmental sustainability in the tourism sector (Budeanu, 2005; Sigala, 2008; Adriana, 2009). Moving towards a more responsible tourism sector is a multi-sectoral and multi-disciplinary goal. In order to achieve this goal, all actors in the tourism industry need to take their responsibility (Sigala, 2008). Tour operators can play an important role, since they have control over the diffusion of tourist flows and activities (Sigala, 2008: they can influence their choice of destination and accommodation (Van Wijk & Persoon, 2006). They also have the power to enforce sustainable practices amongst suppliers by selecting those who comply with sustainable standards (Van Wijk & Persoon, 2006; Sigala, 2008). To move towards a responsible tourism sector, participation of tour operators is vital.

2.3 Tour Operator's Carbon Management

One way in which tour operators can contribute to climate change mitigation is by reducing the carbon footprint of their holidays. Reducing the carbon footprint as a mitigation strategy is often referred to as carbon management. Strasdas defines carbon management as "a management system that aims to reduce a company's or organisation's greenhouse gas emissions as much as possible,

ideally to zero" (2010, p. 60). While this definition describes greenhouse gas emissions as a broad term, in carbon management, the main greenhouse gas of interest is CO_2 (Strasdas, 2010). In table 1, the six steps of implementing carbon management according to Strasdas are summarised.

1. Measure	Find out where CO_2 emissions occur and for what reasons they occur
2. Eliminate	Avoid emissions by getting rid of energy-intensive products
3. Reduce	Reducing energy consumption and increasing energy-efficiency
4. Substitute	Replace fossil energy sources with renewable energy sources
5. Offset	Compensate for remaining emissions by investing in compensation projects
6. Communicate	Tell your customers, employees, suppliers and other stakeholders about carbon management

Table 1: Steps in Carbon Management (Strasdas, 2010)

In order to help tour operators with determining the carbon emissions of their holiday packages, which is step one in carbon management, the CARMATOP project has produced CARMACAL: a tool that provides tour operators a way of measuring the carbon emissions of their holiday packages in detail. Tour operators can use this tool to calculate the carbon footprint of their holidays and identify areas where they can make their holidays less carbon-intensive. The information that CARMACAL gives them, makes it easier for tour operators to identify important areas where they can and should eliminate, reduce or substitute their carbon emissions. Carbon emissions could for example be reduced on flights: offering direct flights instead of flights with a lay-over, or in the future it could be possible to fly on flights that are using bio-fuel. Accommodation choice could also have an influence on the carbon emissions of a holiday: accommodations certified as 'sustainable' have a lower impact than accommodations that are not certified. For the carbon emissions that are left after step 1 to 4, compensation projects could be set off in order to offset these carbon emissions. The sixth step in carbon management is communication of carbon management activities, which can be quite challenging. With the CARMACAL tool and the information tour operators get from it, tour operators can explain to their customers what the impact of their holiday is. And in the long run, tour operators can give their customers the option to choose a better and greener holiday (Centre for Sustainable Tourism and Transport, n.d.; Centre for Sustainable Tourism and Transport, 2013; Dresmé, 2016). Even though Strasdas (2010) proposes those six comprehensive steps, in reality it can be seen that tour operators do not necessarily follow this process, but primarily focus on the communication aspects and potential strategies to influence consumer behaviour (Buijtendijk et al., 2016). This is an important part of carbon management: carbon management activities do not have the required effect, if in the end consumers don't buy those products that result from carbon management. Influencing consumer behaviour is therefore not only a very challenging aspect of carbon management, but also a very important aspect.

2.4 Consumer behaviour regarding carbon-reduced holidays

The literature on consumer behaviour regarding carbon-reduced holidays raises some concerns: Eijgelaar et al (2016) found that environmental sustainability is ranked as the least important factor (out of 9 factors) when deciding on a holiday among Dutch tourists. Factors that are viewed as more important in holiday choice are provider, travel time, time of arrival and departure, date of the journey, mode of transport, accommodation, price, and as the most important factor: the destination itself (Eijgelaar et al. 2016). A study in the UK found similar results amongst tourists. Within this study the five most important factors when booking a holiday are as follows: price was indicated to be the number one, followed by weather, family and friends, minimal travel time, and activities (Hares et al., 2010). Here is also no mention of environmental sustainability as a factor in the decision-making process. While environmental sustainability is not on the list of priorities at all, price seems to be high on the list of priorities when booking a holiday: Eijgelaar et al. (2016) and Hares et al. (2010) already found this result, but in the research of Chiang & Jang (2007) they have taken a more in-depth look at the role of price. They found in their study that perceived price, meaning the appropriateness of the price, plays a major role in booking decision-making. Gössling et al. (2012) looked at consumer behaviour and demand response of tourists to climate change and found that leisure travellers are quite price sensitive.

Furthermore, Hares et al. (2010) identified some barriers that consumers face in changing their purchase behaviour of holiday packages. The first barrier that consumers face is that they have a preference for air travel and often dismiss other travel modes. Secondly, consumers place a great importance on their holidays and are often not willing to change their behaviour in their purchases, since they do not want to feel restricted in their choice. Lastly, most consumers have the view that climate change is not their responsibility and they should not be the ones to 'fix' the problem. The lack of personal responsibility makes it hard for consumers to change their behaviour, as well as for tour operators to convince consumers to change their behaviour (Hares et al. 2010). This is a major concern, since moving towards a more sustainable tourism sector, and mitigating the effects of climate change requires the flexibility and participation of all actors, including the tourists themselves.

Communication is often used to try to change consumer behaviour regarding carbon-reduced holidays. One way of communication that aimed to change consumer behaviour is the use of carbon labels. Carbon labels are defined as "communication systems intended to influence consumer behaviour towards greater consideration of environmental concerns" (Gössling & Buckley, 2016, p.359). The research of Eijgelaar et al. (2016) studied the effectiveness of carbon-labels on tourism products in the Netherlands. They found that the use of carbon-labels is viewed by consumers as effective, but other measures are viewed as more effective: making polluting holidays more expensive than green ones and offering sustainable holidays as standard. Reasons for putting carbon-labels on only the third place in effective measures are related to a lack of reliability and credibility, as well as a lack of knowledge on the existence of these labels and a lack of believe in the fact that choosing and environmentally friendly holiday would make a difference (Eijgelaar et al., 2016). Gössling and Buckley (2016) found similar results: in order for carbon-labels to have the desired effect, work needs to be done to improve consumer's understandings of these labels, to show its significance, and to

make sure these labels are reliable. If labels do not comply to these standards, consumers are very likely to ignore the label (Gössling & Buckley, 2016). Even though there are steps to make in improving carbon labels, Eijgelaar et al. (2016) concludes with the statement that 'a carbon label for tour packages could contribute to more sustainable tourism development' (p. 408). Besides the suggestion that carbon-labels need to be improved, these studies also indicate that there is meaning in exploring other approaches than carbon-labelling in influencing consumer behaviour.

2.5 Gap in the Literature

The literature review has shown that consumers do not regard environmental sustainability as important, while price is viewed as very important. Furthermore, there are many barriers for consumers to change their behaviour and it is difficult to communicate carbon management practices to consumers and change their behaviour. Carbon labels are the main topic of existing research in this field, but labels are only one way of communication and may not have the desired effect of people choosing an environmentally sustainable holiday. With this in mind, the question arises if tour operators should provide their consumers with a choice in this matter.

A total of three knowledge gaps can be identified from the literature that will be addressed in this research. First of all, Eijgelaar et al. (2016) already found that consumers think that it is more effective to only offer green holidays, but what is not known yet is how consumer would react on such green holidays. Tour operators are introduced to CARMACAL and have the ability to calculate the carbon emissions of their packages and to reduce to carbon footprint of their holidays. But eventually, those holidays need to be provided to the consumer and the role of the consumer in this picture is not clear yet: will they accept the carbon-reduced holidays or do they prefer the 'normal' holidays that are presented now? A distinction is made between normal holidays, as they are provided to the customer now, and carbon-reduced holidays, which are holidays on which carbon emissions have been reduced in flights and accommodation. Secondly, the carbon label can potentially contribute to sustainable holiday choice, but needs to comply to several standards in order to be effective (Eijgelaar et al., 2016; Hares et al., 2010). Even though several labels have been extensively tested, it has not yet been examined by including it in the booking experience. Therefore this research will fill this gap by using a label that has been designed for the Dutch travel industry and test its contribution by including it in a booking experience setting. Lastly, as price is important for customers when booking a holiday (Eijgelaar et al., 2016; Hares et al., 2010; Chiang & Jang, 2007 and Gössling et al., 2012) this will also be a part of this research: carbon-reduced holidays tend to be more expensive than 'normal' holidays and it is not yet clear what people will think of this price increase. This knowledge gap will be addressed by including normal and adjusted higher prices in this research.

To address these knowledge gaps this research will examine the consumer-side of carbon-reduced holiday packages and will aim to explore their behaviour regarding these holiday packages. In the design of this research the three knowledge gaps – carbon footprint of the holiday, the provision of a carbon label, and price – will be included.

3. Methodology

3.1 Operationalising consumer behaviour

To investigate abovementioned knowledge gaps, consumer behaviour needs to be operationalised. Consumer behaviour cannot be measured directly and there are many views on how to best do so. Consumer behaviour is often explored by measuring people's attitudes and intentions. These two variables are generally seen as predictors of behaviour (Ajzen, 1991; Ajzen & Fishbein, 2000; Hwang et al., 2011; Cohen et al., 2014). Therefore, attitudes and booking intentions are the variables that are measured in the questionnaire in order to explore consumer behaviour. Chapter 3.5.1 about questionnaire design will go into more depth about the exact measurement of attitudes and booking intentions in this research.

3.2 Research question

To investigate consumer attitudes and booking intentions regarding carbon-reduced holiday packages, consumer responses to different ways of providing carbon-reduced holiday packages will be tested in an experiment. The main research question for this research is as follows:

What are consumer's attitudes and booking intentions towards carbon-reduced holiday packages?

The following sub-questions will help answer the main research question:

- 1. What are respondent's attitudes towards the different holiday packages?
- 2. What are respondent's booking intentions towards the different holiday packages?
- 3. How do the different variables carbon footprint, carbon label and price influence respondent's attitudes and booking intentions?

3.3 Research design

The research question is addressed with a between-groups experimental design (Adler & Clark, 2014). The three knowledge gaps mentioned earlier are included as variables in this experimental design:

- Carbon footprint of a holiday package: in this variable a distinction is made between a 'normal' holiday and a holiday in which the carbon emissions are reduced in transport and accommodation.
 - Variable: Carbon footprint Normal versus Reduced
- The communication of the carbon footprint through a carbon-label: in this variable a
 distinction is made between the communication of the carbon footprint through a carbonlabel that has been developed for the Dutch travel industry, and no communication of the
 carbon emissions of a holiday.
 - ➤ Variable: Carbon label Yes versus No
- Price: in this variable a distinction is made between the normal price of a certain holiday package and the estimated (higher) price of the holiday package if carbon emissions where to be reduced (this is based on the use of different flight fuel and the use of different accommodation).

Variable: Price – Normal versus Adjusted

These three variables make up a total of eight conditions (table 2). In each condition participants are exposed to three holiday packages on a dummy webpage.

	Carbon footprint	Carbon label	Price
Condition 1	Normal	Yes	Normal
Condition 2	Normal	Yes	Adjusted
Condition 3	Normal	No	Normal
Condition 4	Normal	No	Adjusted
Condition 5	Reduced	Yes	Normal
Condition 6	Reduced	Yes	Adjusted
Condition 7	Reduced	No	Normal
Condition 8	Reduced	No	Adjusted

Table 2: Conditions of experiment

3.4 Sample definition

3.4.1 Holiday packages

The holiday packages that participants are exposed to are dummy products provided by TUI Nederland, a large tour operator in the Netherlands. Together with TUI Nederland three holiday packages have been selected. Figure 1 shows the three holiday packages that are presented to the respondents: TIME TO SMILE Sundance (Crete), TIME TO SMILE Terrazamar (Gran Canaria), and TIME TO SMILE Coral Dreams (Tenerife). These particular holidays are selected since they are popular and similar: all three are holidays in the Mediterranean, their customer rating is approximately the same, and in price they do not differ too much.

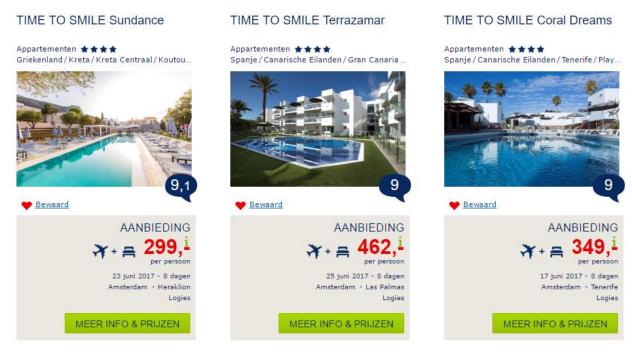


Figure 1: Dummy Products

The website environment is based on TUI's existing website page 'compare your holiday', where customers can compare different holidays to each other. On the webpage, respondents also receive information about the different holiday packages through fields that they can open and close, as shown in figure 2. The most important information regarding this experiment can be found when the field of Flight ('Vlucht') and Accommodation ('Accommodatie') are opened. In the other fields respondents find standard information that is the same across all the conditions. In the sub-chapters below, the manipulation of each variable will be explained. The full dummy webpages can be found in chapter 8.1 (Appendix).

> Ligging Openen	
> Vlucht Openen	
> Accommodatie Openen	
> Faciliteiten Openen	
> Restaurant Openen	
> Zwembad Openen	
> Sport Openen	
> Diversen Openen	

Figure 2: Holiday Information

The holiday packages remained the same over the eight conditions, except for the three variables that have been be manipulated as mentioned in table 2. This is to eliminate other factors that might influence attitudes and booking intentions, and to put the focus only on the three variables of interest.

3.4.2 Manipulation of the variable 'Carbon footprint'

In the conversation with TUI's sustainability manager it came forward that it most likely for TUI to reduce its holiday's carbon footprint by using flights that run on biofuel and by providing accommodations that are certified as being sustainable. This is also the information that was used in this experiment in order to manipulate the variable 'carbon footprint of the holiday'. This information was brought to the respondent in the fields of 'Flight' and 'Accommodation' that were provided on the webpage. In the conditions where the carbon footprint was kept normal the following information was provided to the respondents about flight and accommodation:

•	•		
✓ Vlucht Sluiten			
Vliegmaatschappij	j TUI fly	TUI fly	TUI fly
Heen	Amsterdam-Heraklion	Amsterdam-Las Palmas	Amsterdam-Tenerife
Terug	Heraklion-Amsterdam	Las Palmas-Amsterdam	Tenerife-Amsterdam
Tussenstops	Non-stop vlucht	Non-stop vlucht	Non-stop vlucht
Vliegtuigtype	Boeing 737	Boeing 737	Boeing 737
✓ Accommodati	ie <u>Sluiten</u>		
Omschrijving	Een vakantie in één van de leukste plekken van Kreta: TIME TO SMILE Sundance is 'the place to be', Goed bed, koffie zoals thuis, en ontspannen bij het fijne zwembad. Een vakantie in ultieme vrijheid.	Een op en top vakantiegevoel met het comfort van thuis bij TIME TO SMILE Terrazamar. Een moderne keuken, comfortabele bedden en het zwembad voor de deur. Genieten in alle vrijheid.	In TIME TO SMILE Coral Dreams heb je een op en top vakantiegevoel en zijn de bedden net zo zacht als thuis. Luxe en comfort kenmerken de ruime appartementen.

Figure 3: Flight and accommodation information in condition 'carbon-normal'

For flight it gives standard information about the flight: airline company, the place of departure and arrival, amount of stops (non-stop flight), and the type of aircraft (Boeing 737). For accommodation

it provides a brief description of the accommodation. For the first holiday, for example, it says: 'A holiday at one of the nicest places of Crete: TIME TO SMILE Sundance is the place to be. A good bed, coffee like at home, and the ability to relax at the pool. It is a holiday in ultimate freedom'.

For the conditions where the carbon footprint of the holidays has been reduced, the information in the fields 'Flight' and 'Accommodation' is slightly different. For the flight information, an extra line is added where it gives information about the type of fuel, in this case: biofuel. For accommodation a line is added to the accommodation description that tells the respondent that the accommodation of this holiday package is certified as sustainable: 'This accommodation is certified as sustainable. With this, it guarantees to take measures regarding water- and energy use and waste reduction' (figure 4).

▼ Vlucht Sluiten							
Vliegmaatschappij	TUI fly	TUI fly	TUI fly				
Heen	Amsterdam-Heraklion	Amsterdam-Las Palmas	Amsterdam-Tenerife				
Terug	Heraklion-Amsterdam	Las Palmas-Amsterdam	Tenerife-Amsterdam				
Tussenstops	Non-stop vlucht	Non-stop vlucht	Non-stop vlucht				
Vliegtuigtype	Boeing 737	Boeing 737	Boeing 737				
Brandstof	Biobrandstof	Biobrandstof	Biobrandstof				
✓ Accommodatie Sluiten							
Omschrijving	Een vakantie in één van de leukste plekken van Kreta: TIME TO SMILE Sundance is 'the place to be', Goed bed, koffie zoals thuis, en ontspannen bij het fijne zwembad. Een vakantie in ultieme vrijheid. Deze accommodatie heeft een erkend duurzaamheidskenmerk. Daarmee garandeert de accommodatie dat zij maatregelen neemt om water- en energieverbruik en afval te verminderen.	Een op en top vakantiegevoel met het comfort van thuis bij TIME TO SMILE Terzazmar. Een moderne keuken, comfortabele bedden en het zwembad voor de deur. Genieten in alle vrijheid. Deze accommodatie heeft een erkend duurzaamheidskenmerk. Daarmee garandeert de accommodatie dat zij maatregelen neemt om water- en energieverbruik en afval te verminderen.	In TIME TO SMILE Coral Dreams heb je een op en top vakantiegevoel en zijn de bedden net zo zacht als thuis. Luxe en comfort kenmerken de ruime appartementen. Deze accommodatie heeft een erkend duurzaamheidskenmerk. Daarmee garandeert de accommodatie dat zij maatregelen neemt om water- en energieverbruik en afval te verminderen.				

Figure 4: Flight and accommodation information in condition 'carbon-reduced'

3.4.3 Manipulation of the variable 'Carbon label'

In half of the conditions a carbon-label is shown, and in the other half of the conditions there is no carbon-label. The holidays presented in the conditions where there is no carbon label look like figure 1. In the conditions that a carbon-label is presented, it looks like figure 5: in the bottom-left corner a label is provided to the respondent. It is a label that has been developed for tour operators in the Netherlands. The text in the label says: 'the footprint of your trip'.

TIME TO SMILE Sundance TIME TO SMILE Terrazamar TIME TO SMILE Coral Dreams Appartementen *** Appartementen *** Appartementen *** Spanje / Canarische Eilanden / Gran Canaria Spanje / Canarische Eilanden / Tenerife / Play... Griekenland / Kreta / Kreta Centraal / Koutou... Bewaard Bewaard **Bewaard AANBIEDING AANBIEDING AANBIEDING** 462.1 17 juni 2017 - 8 dagen 23 juni 2017 - 8 dagen 25 juni 2017 - 8 dagen Amsterdam - Heraklion Amsterdam - Las Palmas Amsterdam - Tenerife Logies Logies Logies MEER INFO & PRIJZEN MEER INFO & PRIJZEN MEER INFO & PRIJZEN

Figure 5: Condition with carbon-label

When a respondent moves his mouse over the label it provides text about the carbon footprint of the holiday package. This information is based on the variable 'carbon footprint'. If the carbon footprint is normal, the following text appears for, for example, the holiday package to Crete: 'The footprint of this trip has been calculated. The carbon emissions of this trip are 391 kilograms: that is equal to driving a car for about 3008 kilometres'. If the carbon footprint is reduced, a slightly different text appears where the carbon footprint is lower: 'The footprint of this trip has been calculated. The carbon emissions of this trip are 352 kilograms: that is equal to driving a car for about 2708 kilometres'. The carbon footprint of the holidays has been calculated with the CARMACAL carbon calculator. In the text there is a comparison of the carbon footprint with the amount of kilometres you can drive with a car and having the same carbon emissions. This is done in consultation with TUI to make it more comprehensible for people to understand what the number of kilograms really means. Without this comparison the number might be too abstract for people. In figure 6, it is illustrated what this looks like on the webpage.





Figure 6: Text of carbon label

3.4.4 Manipulation of the variable 'Price'

In one half of the conditions, the price shown is the normal price for those holidays: for TIME TO SMILE Sundance (Crete) the normal price is €299, for TIME TO SMILE Terrazamar (Gran Canaria) the normal price is €462, and for TIME TO SMILE Coral Dreams (Tenerife) the normal price is €349. In the other half of the conditions, an adjusted, higher, price is shown based on the price increase when the holiday packages was to be carbon-reduced. This number is calculated by using the price increase that a flight on biofuel would bring. For accommodation the price difference between normal accommodation and certified accommodation is negligible and therefore not included in the calculations. Estimations are that biofuel is about twice as expensive as normal fuel. From TUI, the estimations on what customers actually pay for fuel on each of the trips were received. That number has been doubled in order to get the adjusted price. With this calculation, the following prices have been formed: for TIME TO SMILE Sundance (Crete) the adjusted price is €379, for TIME TO SMILE Terrazamar (Gran Canaria) the adjusted price is €559, and for TIME TO SMILE Coral Dreams (Tenerife) the adjusted price is €439.

3.4.5 Respondents

The respondent sampling technique in this research is convenience sampling: respondents who are easy to reach have taken part in this research. In this case, the convenience sampling took place online. The main goal in sampling was to attract TUI's target group. Fortunately, TUI's target group is very broad: people who have experienced a mainstream package holiday once in their life. Therefore, there was one prerequisite for respondents to take part in this research: the respondent must have booked a holiday package some time in their life through TUI or another, similar, large tour operator.

3.5 Data collection using a questionnaire

In the data collection phase, participants are sitting behind a laptop or computer and the dummy products are presented to participants in a website-environment, as such the normal booking process of a consumer is mimicked. This experiment is linked to a questionnaire that deals with respondent's attitudes and booking intentions.

3.5.1 Ouestionnaire structure and flow

A questionnaire has been design to measure respondent's attitudes and booking intentions of the presented holiday packages. Attitudes – defined as 'feelings or emotions towards something' (Merriam-Webster, 2017) – are measured by using emotion-items provided by NHTV University of Applied Sciences (2017). The emotions included are shown in table 3 and can be divided into two overarching variables: positive emotions and negative emotions. These variables can be computed by adding up the individual emotion-items. The emotion-items are measured on an five-point Liker scale from 'not at all' to 'extremely'.

Positive emotion-items	Negative emotion-items
Interested/concentrated/alert	Fearful/scared/afraid
Positively surprised/amazed/astonished	Angry/irritated/mad
Happy/pleased/joyful	Depressed/sad/miserable
Loving/affectionate/friendly	Anxious/tense/nervous
Calm/peaceful	Disdainful/scornful/contemptuous
Excited/thrilled/enthusiastic	Disgusted/turned off/repulsed

Table 3: Positive and negative emotion-items

A common way to measure intentions is to measure a straightforward expressed intention to purchase using a scale of statement (Hwang et al., 2011; Barber et al. 2012). In this research, therefore, booking intentions are measured by using statements that apply to this specific research setting. A total of three items are used: intention to book the holiday of choice from the experiment, intention to book another holiday than their holiday of choice, and intention to recommend TUI to a friend or colleague. The first two items are measured on a five-point Likert scale from 'extremely unlikely' to 'extremely likely'. The last item is measured as a Net Promoter Score, which indicates the customer's loyalty and satisfaction, and is therefore measured from 0 to 10 – 'extremely unlikely' to 'extremely likely' (Reichheld, 2003).

Before the questionnaire dives into the items about attitudes and booking intentions, it starts with an introduction where the respondent is thanked for their participation, the goal of the study is made clear, and the respondent is assured that their response is anonymous. When the respondent clicks on the 'next'-button, Qualtrics, which is the program used to make and distribute the questionnaire, randomly assigns respondents into one of the abovementioned eight conditions, while at the same time it aims to keep the groups about the same size. The page that follows here is condition-specific. On this page, the respondent will be asked to do a small assignment: "Before you start with the questionnaire, imagine that your boss has given you some days off next month and you are looking for a last-minute holiday to book for those days. Suppose you search on the website of TUI, a tour operator, and your search brings up three possibilities on the following webpage: 'link to condition-specific webpage'. Please pick the holiday that you would be most likely to book from the three". The link that the respondent clicks on depends on the condition the respondent is randomly assigned to: each condition has a different webpage.

After they have visited the webpage and completed the assignment, respondents could click on the 'next'-button and from that page on, the actual questionnaire started. Firstly, respondents were asked to indicate their choice of holiday. After that, respondents were asked about the emotions that they

experienced during their visit on the webpage using the abovementioned emotion-items. Following this question, if a respondent has been assigned to a condition that includes a carbon label – conditions 1, 2, 5 and 6 – some questions were asked regarding the carbon label. These items are dealing with the comprehensiveness and usefulness of the label. If a respondent has been assigned to a condition that does not include a carbon label – conditions 3, 4, 7, and 8 – these questions are skipped by the program. After this, the respondent was asked about his or her booking intentions using the abovementioned items. The questionnaire concludes with questions regarding the respondent's demographic information. The full questionnaire can be found in chapter 8.2 (Appendix).

3.5.2 Pre-test

Before the questionnaire was distributed, a pre-test was done amongst 12 participants. They were asked to complete the questionnaire and provide feedback about the clarity of the questions, about the survey flow, about issues when filling in the questionnaire and about the overall quality of the questionnaire. This pre-test led to some useful feedback that has been taken into account before the actual distribution of the questionnaire: the questions in the questionnaire were clear for all the participants in the pre-test. Furthermore, the length of the questionnaire was perceived as good. One participant, however, encountered a problem with opening the website link that takes the participant to the dummy webpage. It turned out she filled in the questionnaire on the web browser 'Microsoft Edge' and the website appeared not to open in this browser. When distributing the questionnaire, participants have been notified about this issue and they were advised to use another web browser. Furthermore, it became clear that participants do not automatically look at the information that is provided when you move your mouse over the carbon-label. Therefore, this feature of the website – only in the conditions 1, 2, 5 and 6 – has been highlighted in the introduction text.

3.5.3 Distribution

The questionnaire was distributed online through social network sites, such as Facebook and LinkedIn. The questionnaire is distributed in the Dutch language. It has only been translated to English for this report. The aim was to have at least 40 people in each condition, and therefore the minimum total sample size was initially set at 320. After two weeks of data collection, the total of amount of respondents was 401. The amount of respondents per condition is shown in table 4. The goal to have at least 40 respondents in each group has been achieved.

Condition	Amount of Respondents
Condition 1	48
Condition 2	47
Condition 3	44
Condition 4	59
Condition 5	47
Condition 6	42
Condition 7	54
Condition 8	60

Table 4: Respondents per condition

3.6 Data analysis

Before the statistical analysis started, the conditions were taken apart and the following three variables were created from the conditions:

- Carbon footprint: respondents who were in a condition where the carbon footprint was 'normal' were placed in the 'normal'-group (0), and respondents who were in a condition where the carbon footprint was 'reduced', were placed in the 'reduced'-group (1).
- Carbon label: respondents who were in a condition where no carbon label was shown were placed in the 'no'-group (0), and respondents who were in a condition where a carbon label was shown were placed in the 'yes'-group (1).
- Price: respondents who were in a condition where the price was normal were placed in the 'normal'-group (0), and respondents who were in a condition where the price was 'adjusted' were placed in the 'adjusted'-group.

In this way, three variables were created on which the statistical analysis were based. The variable 'condition' has been transformed into these new variables, since it is of interest of this research to see which variables have an influence on respondent's attitudes and booking intentions.

The variable 'positive emotions' has been computed by adding up the six positive items mentioned in chapter 3.5.1 and the variable 'negative emotions' has been computed by adding up the six negative items. To see if the booking intention items can be computed into one variable, a Principle Axis Factor analysis with a Varimax rotation of the three variables has been performed. A factor analysis is a technique for identifying latent variables – meaning not directly observed variables, but inferred from observed variables - in the data (Field, 2013).

The sub-questions of this research are answered by performing a factorial MANOVA in SPSS. This analysis can be used to examine the effect of two or more categorical independent variables on two or more dependent variables (Field, 2013). The variables 'carbon footprint', 'carbon label' and 'price' were used as the independent variables in this analysis and the variables 'positive emotions', 'negative emotions', 'intent to book this holiday', 'intent to book another holiday', and 'intent to recommend' were used as dependent variables. Descriptive statistics from the analysis were used to answer the first to sub-questions: 'What are respondent's attitudes towards the different holiday packages?' and 'What are respondent's booking intentions towards the different holiday packages?'. Running the actual analysis in SPSS provided an answer to the third sub-question: 'How do the different variables influence respondent's attitudes and booking intentions?'. The analysis examined two things: the main effect of each of the independent variables on the dependent variables, and at the interaction effect between the variables on the dependent variables.

Below, a visualisation of the data analysis can be found (figure 7). It can be seen that first of all the eight conditions are recoded into the three variables: carbon footprint, carbon label and price. After that, with a factorial MANOVA the effect of these three variables and the interaction between these three variables on the dependent variables is analysed.

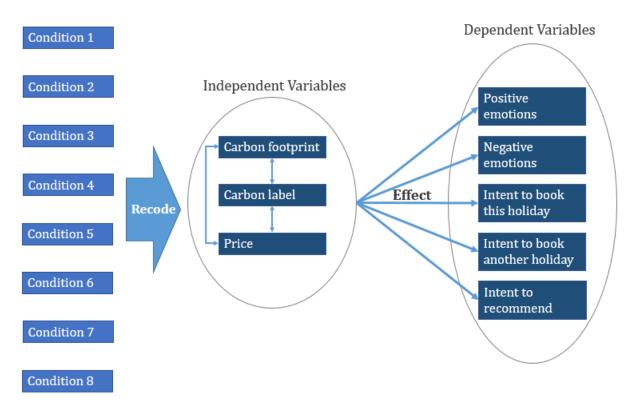


Figure 7: Data analysis

4. Results

4.1 Sample description

The sample in this research is quite diverse. Of all the respondents, 33,5% is male and 66,5% is female. The age of the respondents ranges from 17 years old to 84 years old. The average age of respondents is 38. Most respondents have spent more than €800 on their previous holiday and most respondents also reported they are planning to spend more than €800 on their next summer holiday, 39,1% and 36,3% respectively (Figure 7). Respondents reported most frequently to earn between €500 and €1000 per month, after that, most respondents reported to earn between €1000 and €1500 per month and €1500 and €2000 per month. Most respondents are HBO (Higher Vocational Education) or WO (University) educated.

4.2 Attitudes and booking intentions towards different holiday packages

4.2.1 Attitudes towards the different holiday packages

Attitudes towards the different holiday packages were measured by looking at respondent's positive and negative emotions experienced when they examined the three holiday options. In the table below (table 5), for each level of the variables the mean score on positive emotions and on negative emotions is shown. Tables 6, 7 and 8 show the mean scores on both dependent variables for the interaction between the independent variables.

Variable	Value	Score on 'positive	Standard	Score on 'negative	Standard
		emotions'	Error	emotions'	Error
Carbon footprint	Normal	17,788	0,357	7,386	0,220
	Reduced	17,932	0,350	7,368	0,215
Carbon label	No	18,017	0,340	7,304	0,209
	Yes	17,703	0,367	7,450	0,225
Price	Normal	18,100	0,360	7,457	0,221
	Adjusted	17,620	0,347	7,296	0,214

Table 5: Mean score on positive and negative emotions

The minimum score for both variables is 6 and the maximum score for both the variables is 30. It can be seen that the score for 'positive emotions' quite neutral: a score between the 17 and 19 lies around the middle of the range, which would be a score of 18. This number would roughly translate to having felt 'positive emotions' during their experience on the webpage 'moderately'. The score on 'negative emotions' is very low. All mean scores are between the 7 and 8, which is not high, since the minimum score on 'negative emotions' is 6. These scores can be translated to having felt 'negative emotions' during their experience on the webpage between 'not at all' and 'a little'.

Value of	Value of	Score on 'positive	Standard	Score on 'negative	Standard
'Carbon	'Carbon	emotions'	Error	emotions'	Error
footprint'	label'				
Normal	No	18,021	0,494	7,394	0,304
Normal	Yes	17,556	0,515	7,378	0,317
Reduced	No	18,012	0,467	7,214	0,287
Reduced	Yes	17,851	0,521	7,522	0,321

Table 6: Mean score on positive and negative emotions for the interaction between 'carbon footprint' and 'carbon label'

Value of	Value of	Score on 'positive	Standard	Score on 'negative	Standard
'Carbon	'Price'	emotions'	Error	emotions'	Error
footprint'					
Normal	Normal	17,983	0,521	7,440	0,321
Normal	Adjusted	17,594	0,489	7,332	0,301
Reduced	Normal	18,217	0,497	7,475	0,306
Reduced	Adjusted	17,646	0,492	7,260	0,303

Table 7:Mean score on positive and negative emotions for the interaction between 'carbon footprint' and 'price'

Value of		Score on 'positive	Standard	Score on 'negative	Standard
'Carbon	'Price'	emotions'	Error	emotions'	Error
label'					
No	Normal	17,762	0,505	7,718	0,311
No	Adjusted	18,271	0,456	6,890	0,280
Yes	Normal	18,437	0,512	7,197	0,315
Yes	Adjusted	16,969	0,524	7,703	0,323

Table 8: Mean score on positive and negative emotions for the interaction between 'carbon label' and 'price'

4.2.2 Booking intentions towards the different holiday packages

Booking intentions revolves around three variables: 'intent to book this holiday', 'intent to book another holiday' and 'intent to recommend'. The three variables are treated separately, since they seem to address different psychological processes: a Principle Axis Factor analysis with a Varimax rotation of the three variables showed that there was no factor that all three variables loaded onto. Therefore, the three variables are treated separately.

Table 9 shows the mean scores for the different values of the independent variables on 'intent to book this holiday' and 'intent to book another holiday'. Table 10 shows the mean scores for the independent variables on 'intent to recommend'. Tables 11, 12 and 13 show the mean scores on the dependent variables for the interaction between the variables.

Variable	Value	Score on 'intent to	Standard	Score on 'intent to	Standard
		book this holiday'	Error	book another holiday'	Error
Carbon footprint	Normal	2,893	0,085	3,856	0,081
	Reduced	2,749	0,083	3,679	0,079
Carbon label	No	2,887	0,081	3,789	0,077
	Yes	2,756	0,087	3,746	0,083
Price	Normal	2,821	0,086	3,779	0,081
	Adjusted	2,821	0,083	3,756	0,078

Table 9: Score on 'intent to book this holiday' and 'intent to book another holiday'

Variable	Value	Score on 'intent to	Standard
		recommend'	Error
Carbon footprint	Normal	6,169	0,155
	Reduced	6,111	0,152
Carbon label	No	6,106	0,148
	Yes	6,175	0,159
Price	Normal	6,069	0,156
	Adjusted	6,211	0,151

Table 10: Score on 'intent to recommend'

The mean scores for 'intent to book this holiday' are all close to the value 3. This would translate to being 'neither likely nor unlikely' to book this holiday in real life. The mean scores for 'intent to book another holiday' approximate the value 4, which indicates being 'likely' to book another holiday in real life. Furthermore, the mean scores for 'intent to recommend' lie around the value 6. This is on a scale from 0 to 10 slightly over half, in the neutral zone.

Value of	Value of	Score on 'intent to	Standard	Score on 'intent to	Standard
'Carbon	'Carbon	book this holiday'	Error	book another	Error
footprint'	label'			holiday'	
Normal	No	2,997	0,118	3,945	0,122
Normal	Yes	2,789	0,122	3,767	0,116
Reduced	No	2,776	0,111	3,634	0,105
Reduced	Yes	2,723	0,124	3,725	0,118

Value of	Value of	Score on 'intent to	Standard
'Carbon	'carbon	recommend'	Error
footprint'	label'		
Normal	No	6,183	0,215
Normal	Yes	6,156	0,224
Reduced	No	6,028	0,203
Reduced	Yes	6,194	0,226

Table 11: Mean score on intentions for the interaction between 'carbon footprint' and 'carbon label'

Value of	Value of	Score on 'intent to	Standard	Score on 'intent to	Standard
'Carbon	'Price'	book this holiday'	Error	book another	Error
footprint'				holiday'	
Normal	Normal	2,887	0,124	3,931	0,118
Normal	Adjusted	2,900	0,116	3,780	0,110
Reduced	Normal	2,756	0,118	3.627	0,112
Reduced	Adjusted	2,743	0,117	3,731	0,111

Value of	Value of	Score on 'intent to	Standard
'Carbon	'Price'	recommend'	Error
footprint'			
Normal	Normal	6,029	0,226
Normal	Adjusted	6,309	0,212
Reduced	Normal	6,109	0,216
Reduced	Adjusted	6,113	0,213

Table 12: Mean scores on intentions for the interaction between 'carbon footprint' and 'price'

Value of	Value of	Score on 'intent to	Standard	Score on 'intent to	Standard
'Carbon	'Price'	book this holiday'	Error	book another	Error
label'				holiday'	
No	Normal	2,796	0,120	3,689	0,114
No	Adjusted	2,977	0,108	3,889	0,103
Yes	Normal	2,846	0,122	3,869	0,116
Yes	Adjusted	2,665	0,125	3,622	0,118

Value of 'Carbon	Value of 'Price'	Score on 'intent to recommend'	Standard Error
label'			
No	Normal	5,799	0,219
No	Adjusted	6,413	0,198
Yes	Normal	6,340	0,222
Yes	Adjusted	6,010	0,228

Table 13: Mean scores on intentions for the interaction between 'carbon label' and 'price'

4.2.3 The influence of 'carbon footprint', 'carbon label', and 'price' on attitudes and booking intentions

A factorial MANOVA was used to determine whether or not the variables 'carbon footprint', 'carbon label', 'price', and the interaction between these variables have an influence on the dependent variables 'positive emotions', 'negative emotions', 'intent to book this holiday', 'intent to book another holiday', and 'intent to recommend'. Multivariate tests show that there is no significant main effect for 'carbon footprint' (Pillai's Trace 1 = 0,12, p = 0,459), 'carbon label' (Pillai's Trace = 0,007, p = 0,750), and 'price' (Pillai's Trace = 0,006, p = 0,791) on the dependent variables. The interactions between the variables 'carbon footprint' and 'carbon label', and between 'carbon footprint' and 'price' were also not significant: for the first interaction Pillai's Trace = 0,006, p = 0,797, and for the second interaction Pillai's Trace = 0,005, p = 0,848. The interaction between the variables 'carbon label' and 'price' was significant: Pillai's Trace = 0,032, p = 0,03 (Table 14).

Dependent Variable	F	df	р	Partial Eta Squared
Positive Emotions	3,904	1	0,049*	0,010
Negative Emotions	4,698	1	0.031*	0,012
Intent to book this holiday	2,317	1	0,129	0,006
Intent to book another holiday	3,921	1	0,048*	0,010
Intent to recommend	4,722	1	0,030*	0,012

Table 14: significance of the interaction between 'carbon label' and 'price' (* indicates significance)

Table 14 indicates that the interaction between 'carbon label' and 'price' is significant for 'positive emotions', 'negative emotions', 'intent to book another holiday', 'intent to recommend'. A simple effects analysis was performed in order to determine the nature of the interactions. The following paragraphs will describe the nature of the interactions.

Figure 9 shows the interaction of the variables 'carbon label' and 'price' on the dependent variable 'positive emotions'. The simple effects analysis indicated that there is a significant difference in the means on 'positive emotions' between respondents who were shown a carbon label and a normal price, and respondents who were shown a label and an adjusted price (F = 4,075, p = 0,044). The mean score on 'positive emotions' for respondents who were shown a carbon label and a normal price is significantly higher – 18,437 – than respondents who were shown a label and an adjusted price – 16,969. The other means in the figure are not significantly different from each other. In figure 10, the interaction of the variables 'carbon label' and 'price' on 'negative emotions' is plotted. The simple effects analysis shows that the difference in the means on 'negative emotions' between respondents who were shown no label and a normal price and respondents who were shown no label and an adjusted price is significant(F = 3,928, P = 0,048). The mean score on 'negative emotions' is significantly higher for respondents who were shown no label and a normal price – 7,7181 – than for

 $^{^{1}}$ Pillai's Trace was used since Box's Test of Equality of Covariance was significant: $F_{(105, 167651,904)} = 1,756$, p < 0,001.

respondents who were shown no label and an adjusted price – 6,89. The other means in the figure are not significantly different from each other.

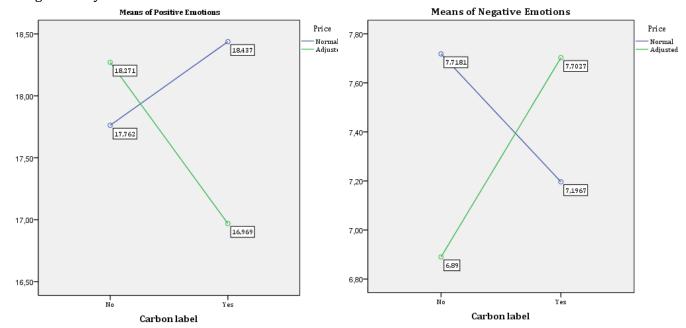
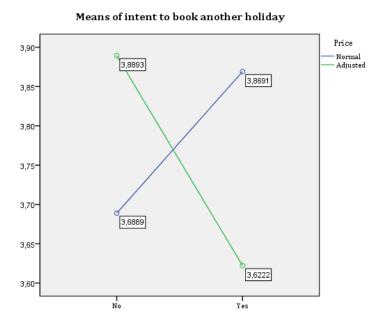


Figure 8: Interaction between 'carbon label' and 'price' on 'positive emotions'

Figure 10: Interaction between 'carbon label' and 'price' on 'negative emotions'

In figure 11, the interaction between 'carbon label' and 'price' on 'intent to book another holiday' can be seen. The factorial MANOVA showed the interaction to be significant (F = 3,921, p = 0,048). The simple effects analysis, however, showed no significance for the interaction between 'carbon label' and 'price' on 'intent to book another holiday'. This can be due to the fact that the interaction in figure 9 is a crossover interaction (the lines cross over each other) and therefore, the outcome can indicate an overall non-significant result even though the difference is significant. In this case, the results from the simple effects analysis should not be interpreted. Figure 12 shows the interaction between 'carbon label' and 'price' on 'intent to recommend'. The simple effects analysis indicates a significant difference between respondents who were shown no carbon label and a normal price and respondents who were shown no carbon label and a normal price scored significantly lower on 'intent to recommend' than respondents shown no carbon label and an adjusted price.



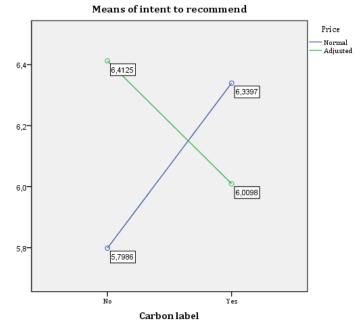


Figure 9: Interaction between 'carbon label' and 'price' on 'intent to book another holiday'

Carbon label

Figure 12: Interaction between 'carbon label' and price on 'intent to recommend'

4.3 Booking factors and carbon-label perceptions

Respondents were also asked about the importance of the following booking factors: price of their holiday and carbon footprint of their holiday. Following those factors, the question was posed if they were willing to pay a higher price in order to reduce the carbon footprint of their holiday. Price is considered to be very important when booking a holiday: most respondents, 53,8%, answered the question 'I consider price to be an important factor when booking a holiday' with strongly agree. 34,9% of the respondents answered this question with somewhat agree, and only 1,8% answered this question with strongly disagree. The carbon footprint of a holiday seems to be of less importance when booking a holiday: most respondents, 29,4% answered the question 'I consider the carbon footprint of my holiday to be an important factor when booking a holiday' with neither agree nor disagree. This category is followed by respondents who answered the question with somewhat disagree and strongly disagree, 25,9% and 24,1% respectively. A small number of respondents indicated to find the carbon footprint of a holiday an important factor when booking a holiday: 16,8% answered this question with somewhat agree, while 3,8% answered this question with strongly agree. Most respondents are not willing to pay a higher price for a holiday in order to reduce the carbon footprint: 27,4% answered this question with strongly disagree, 23,4% with somewhat disagree, and 25,1% with neither agree nor disagree.

In half of the conditions, respondents were shown a carbon-label on the webpage they visited. In total 184 people were in a condition with a carbon-label presented on the webpage. Of those people, 32,1% actually took a look at the information provided by the carbon-label, while the majority, 67,9%, did not take a look at the information under the carbon-label. The 59 people who did take a look at the carbon-label were presented a couple of statements about the carbon-label. According to the respondents the label is comprehensible: 50,8% of the respondents who had taken a look at the

carbon-label answered with somewhat agree and 35,6% answered with strongly agree. Respondents also found the label useful: 50,8% answered to this statement with somewhat agree and 25,4% with strongly agree. The label is viewed as reliable to some respondents - 28,8% somewhat agrees and 11,9% strongly agrees – but most respondents, 55,9%, are not sure about the reliability and answered to the statement with neither agree nor disagree. For the respondents who took a look at the information on the carbon-label, the label does help in making them more aware of the carbon footprint of their holiday: 49,2% somewhat agrees and 15,3% strongly agrees. But, the label does not influence the choice of their holiday for most respondents: 54,2% of respondents answered either with strongly disagree of somewhat disagree. 22% answered with neither agree nor disagree and another 22% answered with somewhat agree. Respondents who looked at the carbon label were also asked to indicate if the carbon-label influenced their views on TUI, ranging from negatively to positively. 50,8% of respondents indicated that it did not influence their views, neither positively nor negatively. 23,7% indicated that in influenced their views in a slightly positive way and 22% indicated that it influenced their views quite positively. In total, 3,4% of the respondents indicated that it influenced their views on TUI in a negative or slightly negative way.

5. Discussion

This research looked at consumer attitudes and booking intentions towards different holiday packages. In the previous section, the main results of the questionnaire are put forward. This section will go into the interpretation and implications of these findings. It will answer the main research question of this study: 'What are consumer's attitudes and booking intentions towards carbon-reduced holiday packages?'. Furthermore, the contributions of this research to the literature are discussed, as well as the limitations this research has.

5.1 Interpretation and implications of main results

The three knowledge gap that this research aimed to address were the role of carbon footprint in consumer behaviour towards carbon-reduced holidays, the role of carbon labels in consumer behaviour towards carbon-reduced holidays, and the role of price in consumer behaviour towards carbon-reduced holidays.

In the literature review of this study, the question was put forward whether or not tour operators should provide their customers with a choice regarding environmentally sustainable (carbon-reduced) holidays. Previous research already found that carbon-labels may not have the desired effect of people choosing an environmentally sustainable holiday and a far more important factor where people base their holiday choice on is price (Eijgelaar et al. 2016, Hares, Dickinson & Wilkes, 2010). The descriptive questions in this research confirmed this: people say to attach more value to the price of a holiday than the carbon footprint of their holiday, and often indicate that they are not prepared to pay a higher price for a carbon-reduced holiday. This research also confirmed in an experimental setting that carbon-labels may not have the desired effect: the majority of people – about two-third - do not bother to look at what information the label has to give. The one-third that did look at the label did find it comprehensible, useful and quite reliable, and it made them somewhat aware of their carbon footprint, but in the end it does not have the desired effect: overall, they indicate

that it does not influence their choice of holiday. Therefore, the question posed in the beginning, if tour operators should leave their consumers with a choice in this matter, is still valid.

Overall, when looking at the results, they show that respondents experience little to no negative emotions when looking at the webpage, while they experience average positive emotions and respondents are more likely to keep looking for another holiday, which might not be surprising, since they only got to choose from three holidays in this experiment - which made the choice limited - , but they also somewhat consider to book the holiday that they have chosen from the webpage. The statistical analysis showed that the three separate independent variables – carbon footprint, carbon label, and price - have no significant effect on the dependent variables. This means, when looking at these variables one by one, they have no influence on consumer's attitudes or booking intentions. The statistical analysis did find a significant interaction between the variables carbon label and price: there is an effect on consumer attitudes and booking intentions when looking at the combination of the variables carbon label and price. The other combinations of variables were also found not significant. Therefore, the variable 'carbon footprint' has no effect at all in the statistical model in this research. The existing literature already suggested that environmental sustainability is not high on the list of consumer's priorities (Eijgelaar et al., 2016; Hares, Dickinson & Wilkes, 2010), and this research is in line with this suggestion, since it shows that consumers do not seem to notice the difference between carbon-normal and carbon-reduced holidays, or do not seem to be influenced by that at all. In the literature review the lack of interest of consumers in environmental sustainability has been put forward as a 'concern', but in reality it may not be: a lack of interest does not only mean that they would not automatically opt for a polluting holiday, it does also mean that when only carbonreduced holidays were on offer, their attitudes or booking intentions are not influenced either. In the existing literature on consumer behaviour regarding carbon-reduced holidays, there is no strong argument that supports this statement. However, in other fields of green consumer behaviour supporting arguments to this statement can be found: Lin & Huang (2012) found in their research on influence on choice behaviour regarding green products that 48% of their respondents did not know whether or not they have bought a green product. Other researchers found that pro-environmental – or green - behaviour is often undertaken based on non-environmental goals (Gifford & Nilsson, 2014). These two studies support the statement made that a lack of interest in environmental sustainability does not automatically mean that people purposely choose the environmental unsustainable product. People without interest in environmental sustainability can still choose the environmental sustainable option: they only do not choose the environmental sustainable option on purpose, or for an environmentally sustainable goal.

These findings implicate that consumers do not react differently to carbon-reduced holidays than to normal holidays. These carbon-reduced holidays, therefore, seem to be accepted by consumers. This means that if tour operators start offering carbon-reduced holidays, their customers are very likely to accept these holidays, just as they accept the normal holidays on offer now. On the other hand, consumer do not like to pay more for a holiday in order to reduce the carbon footprint. This is not only shown by asking people that specific question, but also by looking at the interaction between 'carbon label' and 'price': when people see a label and a normal price they experience significantly more positive emotions than when people see a label and an adjusted price. This can be due to the

fact that the label invokes the thought that they are paying a higher price due to the carbon-reduction on the holiday, which they indicated they did not want to do. When people know, or think they know, that they are paying a higher price for a holiday because they carbon footprint has been reduced, they seem to be less accepting of the holidays presented. In this case, the carbon label is counterproductive: it makes people less likely to feel positively towards the holiday. This adds to Eijgelaar et al. (2016) who looked at the effectiveness of carbon labels by showing that a carbon label – the carbon label that is used in this experiment - is not very effective at the individual product-level. The statement that carbon labels could contribute to the sustainable development of tourism (Eijgelaar et al. 2016) could still be valid, but is not confirmed in this experiment that deals with a specific carbon-label at the individual product-level.

The interaction between 'carbon label' and 'price' is a little different for the effect on negative emotions and intent to recommend. For these variables, showing a carbon label does not make a difference, regardless of price, but showing no label does make a difference: it was found that with an adjusted price, negative emotions are lower and intent to recommend is higher. This, again, indicates that people are willing to pay a higher price, and are satisfied with a higher price, as long as they are not reminded of the idea that they are paying a higher price because the holiday has been carbonreduced. Even though the existing literature placed price high on the list of priorities of consumers booking a holiday (Eijgelaar et al., 2016; Hares et al., 2010), this experiment shows that the importance of price is dependent on the carbon label. Despite people indicating that they are not willing to pay a higher price for a carbon-reduced holiday, they are in reality willing to pay a higher price until it becomes clear to them that they are paying a higher price than 'normal'. Even though not all the interactions were proven to be significant, the general trend that can be seen, is that in a scenario with a carbon-label and an adjusted price consumer attitudes and booking intentions are lower than a scenario where no carbon-label is shown with an adjusted price. This adds to Gössling et al. (2012) who stated that leisure travellers are price sensitive by showing that leisure travellers are indeed price sensitive, but only when they are aware of paying more than 'normal'. This is in line with Chiang & Jang (2007) and their findings about the 'appropriateness of price' that is important in the consumer booking process. Paying a higher price for carbon-reduction on a holiday is not perceived as appropriate in this case. What this means for tour operators, especially for TUI in this case, is that they can offer their consumers carbon-reduced holidays, since they will be accepted as long as the consumers do not get the idea that they are paying more than they normally would pay for a 'normal' holiday.

5.2 Recommendations

For the future direction of the tourism sector it has been said in the literature review that it is important to have tour operators willing to offer carbon-reduced holidays, as well as consumers willing to book carbon-reduced holidays. This research shows that consumers are willing to book carbon-reduced holidays. Even though the goals of both parties differ – tour operators strive for a more environmentally sustainable offer of holidays, while their customers are looking for a holiday that has good value for money -, the end result remains the same: when tour operators offer carbon-reduced holidays, consumers are willing to book those holidays just as much as they are willing to book the normal holidays on offer right now. Therefore, tour operators should seriously consider to

include carbon-reduced holidays in their offer. Assuming that the offer of carbon-reduced holidays goes alongside with an increase in price, it would be best for tour operators to be cautious with using carbon labels, since this research suggest them to be counterproductive at the individual product-level. However, more research is needed – for different tourism products and on different presentation-levels - to determine the productiveness or counter-productiveness of the carbon label.

5.3 Contributions of this research

This research has contributed to the academic literature by shedding light on the consumer-side of carbon-reduced holidays. This research supplements earlier studies that examined consumer behaviour regarding carbon-reduced holidays and offers a more nuanced understanding. Through the experimental design in this research, insight has been gained in consumer attitudes towards carbon-reduced holidays and consumer booking intentions in different scenarios. Therefore, through this research, valuable insights into people's attitudes and booking intentions regarding these holiday packages are put forward. Furthermore, this research has a practical value for tour operators by showing that, even though existing literature is mainly focussed on label-based strategies for tour operators (Eijgelaar et al., 2016; Gössling & Buckley, 2016), carbon labels may not be the optimal tool for transforming consumer behaviour and other options should be explored. It also showed that the carbon footprint of a holiday has no effect on consumer behaviour, which indicates that an offer of carbon-reduced holidays would not be perceived differently as an offer of normal holidays. With these findings, tour operators can introduce carbon-reduced holiday packages to their consumers.

5.4 Limitations of this research

The limitations of this research are important to highlight and the interpretation and use of the results of this research should be done in light of these limitations. Due to time constraints, this research measured people's attitudes and booking intentions through a questionnaire consisting of emotionitems and booking intention-items. It is known for these kinds of methods where respondents rate themselves on certain items that there are some issues regarding accuracy of the answers (Paulhus & Vazire, 2007). In these kinds of methods it can be questioned why we should trust what people say about themselves. Furthermore, in this research it was decided to expose respondents to a webpage that provided three sun-based holiday packages. The choice for respondents was very limited and the holidays provided might not match with their normal choice of holiday: if you normally book a winter sports vacation, these holidays to the sun might not be interesting or relevant for you. Therefore, this possible mismatch for some respondents between their normal holiday of choice and the options available may have had an influence on the outcomes of this research. It should also be taken into account that the questions in this research were based on a hypothetical situation: people might have different opinions in an 'would'-choose scenario, then in a situation where they actually have to choose a holiday, in a real booking process.

5.5 Suggestions for future research

It is suggested that future research in this field will learn from this research and its limitations. This research measured people's emotions indirectly through a questionnaire. A more reliable method of collecting data on people's emotions is by measuring their emotions directly. Therefore, future research should focus on measuring people's emotions directly by using for example physiological

measures, like: facial expressions, heart rate, breathing, and skin conductance. This eliminates the question of accuracy of this research using an indirect approach. Besides that, future research should expand this experiment by offering respondent's a broader choice of holidays, possibly tailored to their normal holiday needs: a respondent that usually books a holiday to the sun should be exposed to these kinds of holidays, while a respondent that usually books a winter sports vacation should be exposed to those holiday packages.

Furthermore, more research is needed to determine the whether or not carbon labels are effective and productive in different scenarios. This research showed labels to be counterproductive for sunbased holidays on the individual product-level. Future research could focus their attention to the use of labels on different products and on different levels.

6. Conclusion

In this research the following question took a central place: 'What are consumer's attitudes and booking intentions towards carbon-reduced holiday packages?'. Consumer attitudes and booking intentions have been measured in an experimental design with eight conditions, where respondents were exposed to a webpage and had to answer questions about their experiences on that webpage regarding their attitudes and booking intentions. In the eight conditions three variables were manipulated: carbon footprint of the holiday, provision of a carbon label, and price. This research found that the individual variables - carbon footprint, carbon label and price - do not have a significant effect on consumer attitudes and booking intentions. The carbon footprint does not have an effect at all on consumer attitudes and booking intentions. It was found that the interaction between a carbon label and price had a significant effect on consumer attitudes and booking intentions. This experiment shows that a carbon label at the individual product-level does more harm than good when it goes along with a higher adjusted price for carbon-reduced holidays. Consumer attitudes and booking intentions for normal holidays and carbon-reduced holidays do not differ, but the carbon-label does seem to achieve a counterproductive effect when in combination with price: people are less likely to book the holiday. Even though consumers stated that they were not willing to pay a higher price for a carbon-reduced holiday, in the experiment it was shown that they in fact are willing to pay a higher price, as long as they are not aware of the fact that the price is higher than 'normal'. It is suggested that tour operators should include carbon-reduced holidays in their offer, since consumers do accept these holidays, but they do need to be cautious with providing a carbon label. This research contributed to scientific literature of consumer behaviour regarding carbon-reduced holidays (Eijgelaar et al., 2016; Hares et al., 2010; Gössling et al., 2012; Gössling & Buckley, 2016; Chiang & Jang, 2007) by examining consumer attitudes and booking intentions towards carbon-reduced holidays are in an experimental design. This information does also have a practical value, since it can be used by tour operators when they are starting to introduce more carbon-reduced holidays to their customers.

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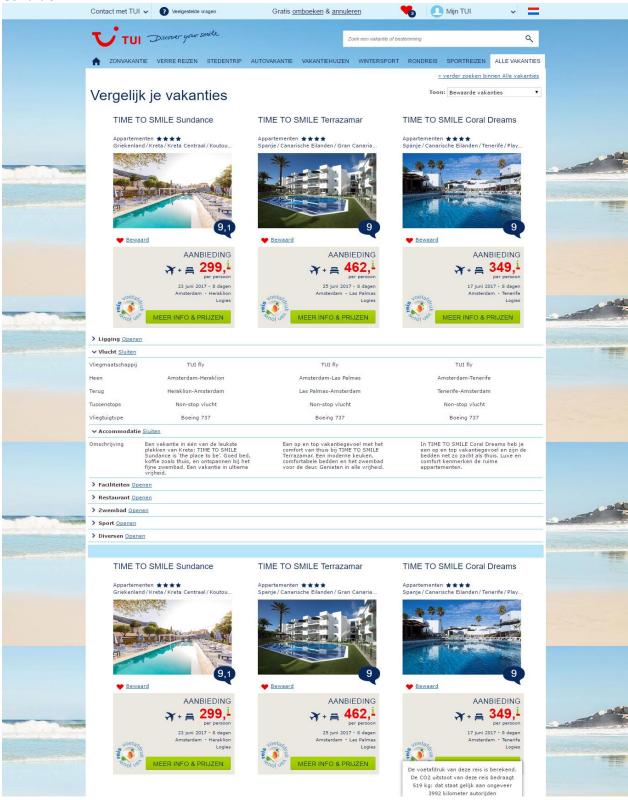
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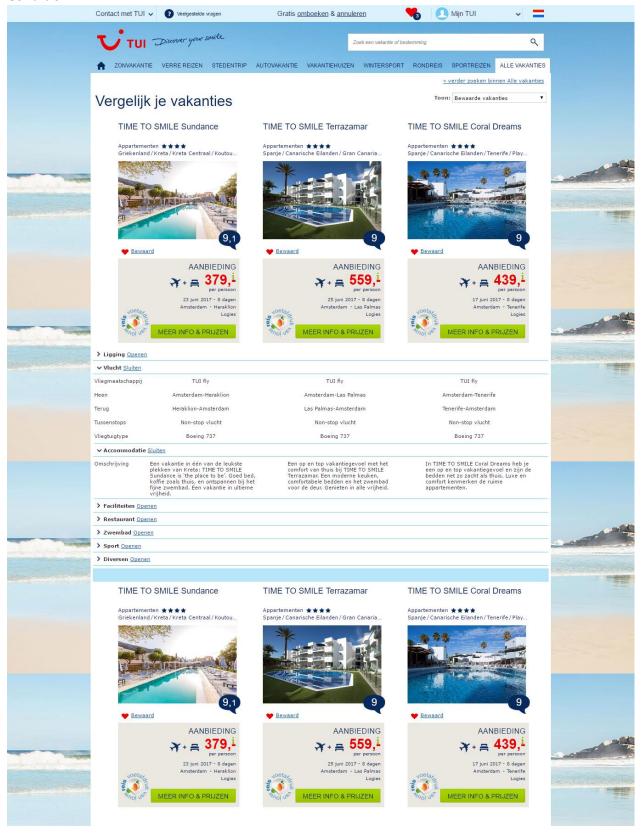
8. Appendices

8.1 Conditions of Experiment

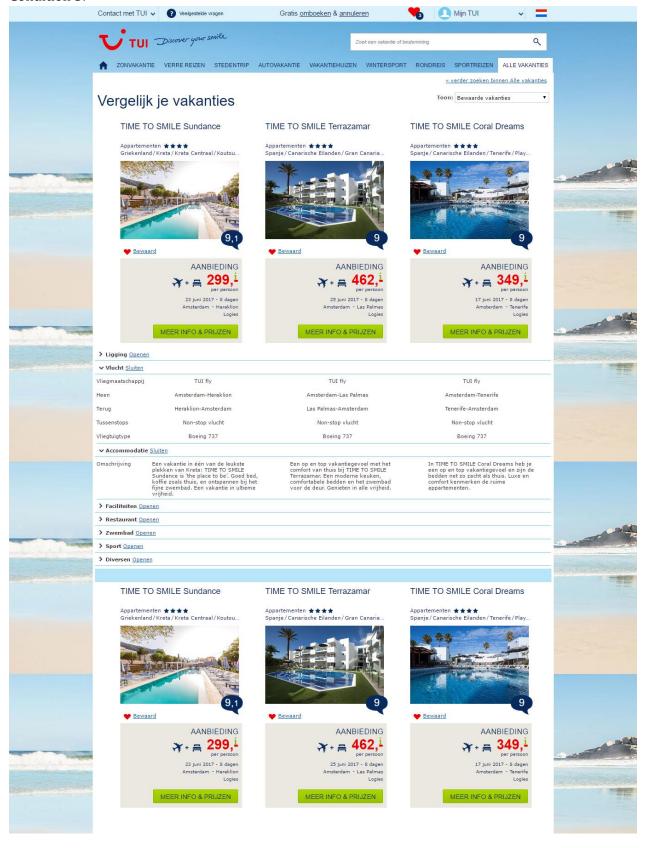
Condition 1:



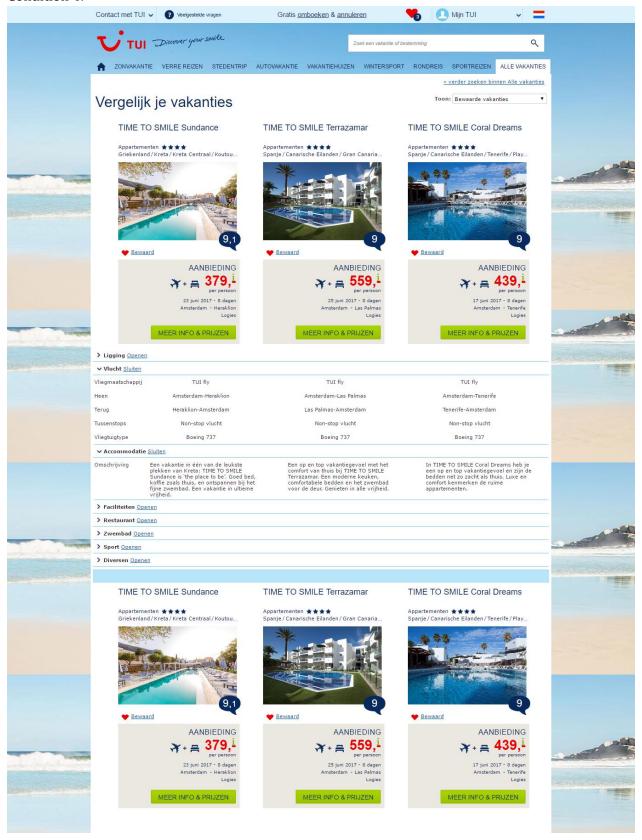
Condition 2:



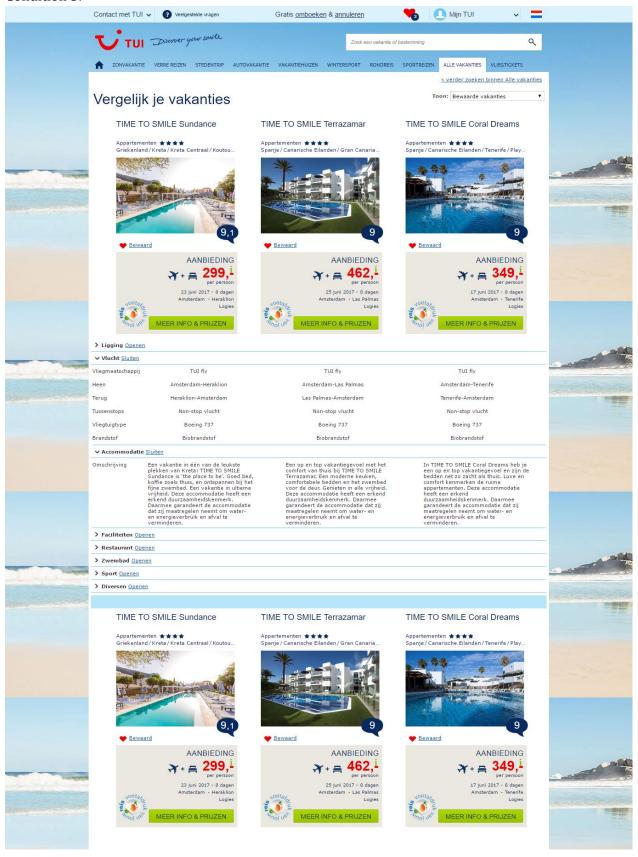
Condition 3:



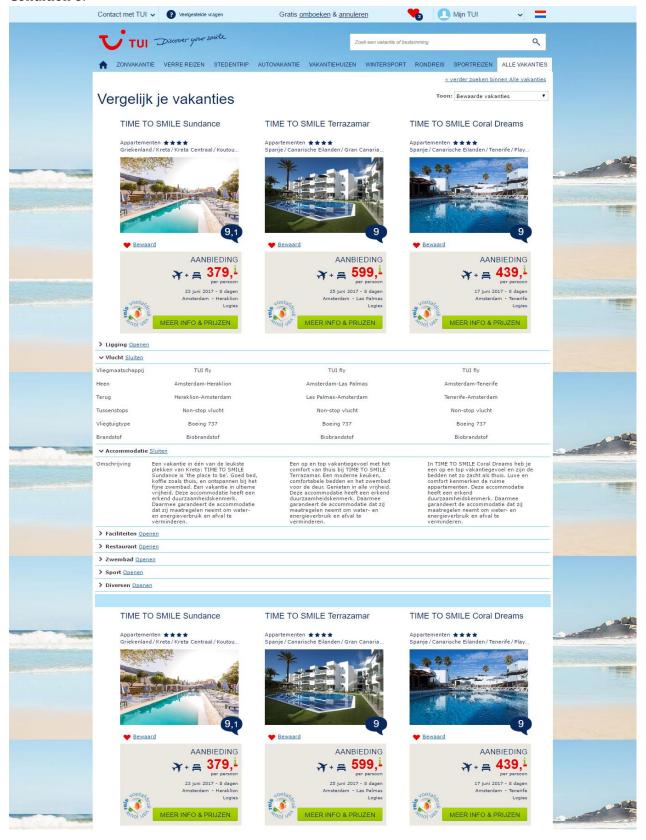
Condition 4:



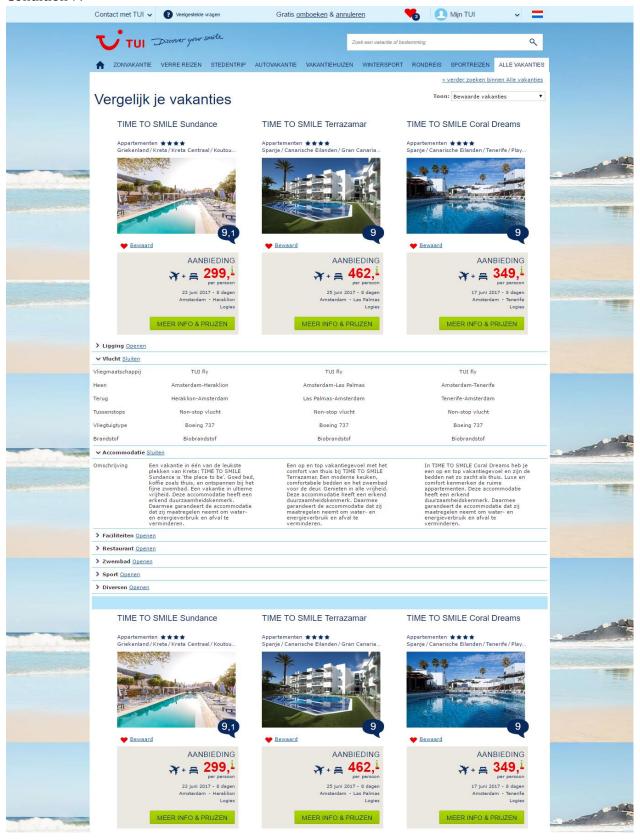
Condition 5:



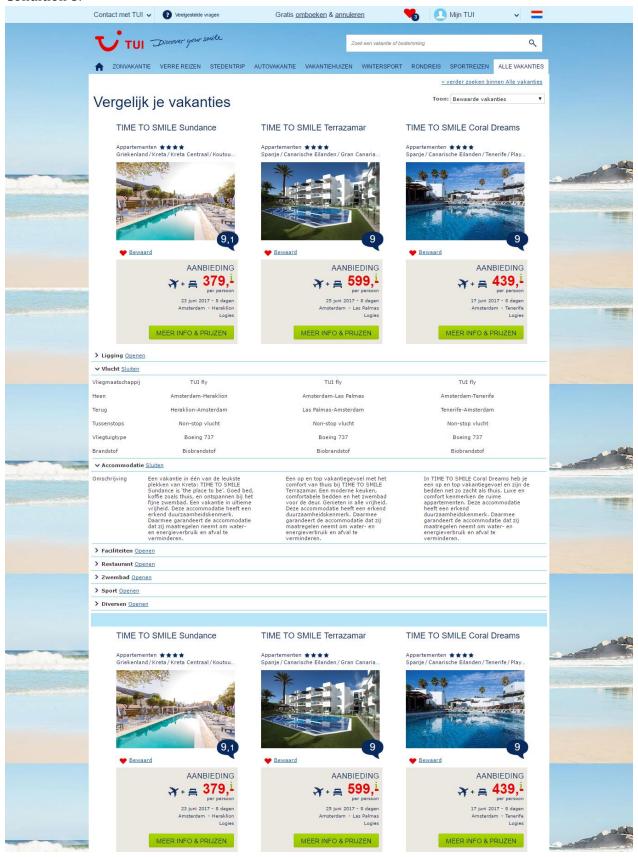
Condition 6:



Condition 7:



Condition 8:



8.2 Questionnaire Items

English Version

Page 1:

Thank you for participating in this research. This questionnaire is part of my Bachelor Thesis and your response will help me get insight into consumer's attitudes and buying intentions towards different holiday packages. Please respond to each question on the basis of your first impression. There are no wrong answers.

It takes between 5 and 10 minutes to complete the questionnaire. All responses are anonymous. Only aggregate data will be reported. Individual responses will not be identified.

0%	100%

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Page 2:

Before you start with the questionnaire, imagine that your boss has given you some days off next month and you are looking for a last-minute holiday to book for those days.

Suppose you search on the website of TUI, a tour operator, and your search brings up three possibilities on the following webpage: http://www.tui.nl/dummies/webpage1.html (click on the link to open te webpage). Please pick the holiday that you would be most likely to book from the three.

The following questions will be dealing with your experience on the webpage and the holiday of your choice. You can indicate your choice in the following question.

<u>Important!</u> - Please note that the webpage provides information in the text below the holidays, as well as through 'hover boxes' that appear when moving your mouse over certain elements on the webpage. This happens, for example, when moving your mouse over the icon 'voetafdruk van uw reis'.

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Page 3:

Which holiday would you choose?

TIME TO SMILE Sundance - Crete

TIME TO SMILE Terrazamar - Gran Canaria

TIME TO SMILE Coral Dreams - Tenerife

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Page 4:

To what extent have you experienced the following emotions while looking at the webpage? Quite a bit A little Moderately Extremely Not at all interested, concentrated, alert fearful, scared, afraid positively surprised, amazed, astonished angry, irritated, mad happy, pleased, joyful depressed, sad, miserable \odot loving, affectionate, friendly anxious, tense, nervous calm, peaceful disdainful, scornful, contemptuous excited, thrilled, enthousiastic disgusted, turned off, repulsed

0% 100%

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"

Page 5:

Did you take a look at the information under the label "Voetafdruk van jouw reis"?	
O Yes	
○ No	
0% 100%	
«	>>

Page 6:

Please indicate the extent to which you agree or disagree with the following statements about the label "Voetafdruk van jouw reis"

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
The label is comprehensible	0	0	0	0	0
The label is useful	0	0	0	0	0
The label is reliable	0	0	0	0	0
The label makes me more aware of the carbon footprint (amount of carbon emissions) of my holiday	0	0	0	0	0
The label influenced my choice of holiday	0	0	0	0	0

How does the availability of the label "voetafdruk van jouw reis" influence your views on TUI?

Negatively $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$ Positively



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Page 7:

0

Please indicate the extent to which you intent to book the holiday of your choice through the questions below.

	Extremely unlikely	Unlikely	Neither likely nor unlikely	Likely	Extremely likely
How likely would you be to book the holiday of your choice in real life?	0	0	0	0	0
How likely would you be to keep looking for another holiday in real life, instead of choosing one of the three shown?	0	0	0	0	0

Based on your experience on the webpage, how likely are you to recommend TUI to a friend, family member or colleague?

Not at all likely

0 1 2 3 4 5 6 7 8 9 10

0

0

0

Please indicate the extent to which you agree or disagree with the following statements Strongly Somewhat Neither agree Somewhat disagree disagree nor disagree agree Strongly agree I consider price to be an important factor when 0 0 0 0 0 booking a holiday I consider the carbon footprint (amount of carbon emissions) of my holiday to be an important factor when 0 booking a holiday I would be willing to pay a higher price for a holiday in 0 0 0 0 0 order to reduce the carbon footprint

Page 8:

What is your gender?
O Male
© Female
What is your age?
How much have you spent on holidays (flight and accommodation) in the last 12 months?
○ Less than €200
○ Between €200 and €300
Between €300 and €400
○ Between €400 and €500
Between €500 and €600
○ Between €600 and €700
Between €700 and €800
More than €800
I did not go on a holiday in the last 12 months

How much are you planning to spend on your next summer holiday (flight and accommodation)?
Less than €200
Between €200 and €300
○ Between €300 and €400
Between €400 and €500
Between €500 and €600
Between €600 and €700
○ Between €700 and €800
O More than €800
I am not going on a summer holiday
What is your monthly net income?
O No income
Less than €500
Between €500 and €1000
Between €1000 and €1500
Between €1500 and €2000
Between €2000 and €2500
Between €2500 and €3000
O More than €3000
○ I don't know / I don't want to say
What is your highest level of education?
Primary school
VMBO (intermediate secondary education)
HAVO/VWO (higher secondary education)
MBO (intermediate vocational education)
HBO (higher vocational education)
○ WO (university)
Other
O Not (yet) started any education
0%

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Dutch Version

Page 1:

Bedankt voor uw deelname aan deze vragenlijst. Deze vragenlijst is onderdeel van mijn bachelorscriptie. Uw antwoorden geven mij informatie over houdingen en koopintenties met betrekking tot verschillende vakanties. Beantwoord elke vraag op basis van uw eerste ingeving. Er zijn geen foute antwoorden.

Het duurt ongeveer 5 tot 10 minuten om deze vragenlijst in te vullen. De antwoorden zijn anoniem. Alleen het totaal van gegevens wordt gerapporteerd. Individuele reacties worden niet geïdentificeerd.

0% 100%

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Page 2:

Voordat u begint met de vragenlijst, stelt u zich eens voor dat uw baas u volgende maand een paar dagen vrij heeft gegeven en u bent op zoek naar een last-minute vakantie om te boeken voor die dagen.

Stel dat u op de website van TUI, een touroperator, zoekt en uw zoekopdracht brengt de drie mogelijkheden op de volgende webpagina: http://www.tui.nl/dummies/webpage1.html (klik op de link om de webpagina te openen). Kiest u alsjeblieft de vakantie die u het meest waarschijnlijk zou boeken van de drie.

De volgende vragen hebben betrekking op uw ervaring op de webpagina en de vakantie van uw keuze. U kunt uw keuze aangeven in de volgende vraag.

<u>Belangrijk!</u> - Houd er rekening mee dat de webpagina informatie geeft in de openklapvelden onder de vakanties, en door middel van 'hover boxes' die verschijnen wanneer u uw muis over bepaalde elementen op de webpagina beweegt. Zo verschijnt er bijvoorbeeld een 'hover box' wanneer u met uw muis over het 'voetafdruk van uw reis'-icoon heen beweegt. (Als u de webpagina op uw mobiele telefoon/tablet bekijkt, dan verschijnt deze 'hover-box' door op het icoon te klikken).

0%

Page 3:

Welke vakantie zou u kiezen?

TIME TO SMILE Sundance - Kreta

TIME TO SMILE Terrazamar - Gran Canaria

TIME TO SMILE Coral Dreams - Tenerife

>>

Page 4:

	Helemaal niet	Een beetje	Matig	Best wel	Extreem
Geïnteresseerd, geconcentreerd, alert	0	0	0	0	0
Angstig, bang	0	0	0	0	0
positief verrast, verbaasd, verbijsterd	0	0	0	0	0
Kwaad, geïrriteerd, boos	0	0	0	0	0
gelukkig, vrolijk, blij	0	0	0	0	0
Depressief, verdrietig, ellendig	0	0	0	0	0
Liefdevol, aanhankelijk, vriendelijk	0	0	0	0	0
Angstig, gespannen, zenuwachtig	0	0	0	0	0
Kalm, rustig	0	0	0	0	0
Minachtend, spottend	0	0	0	0	0
Enthousiast, bevlogen	0	0	0	0	0
Vol afkeer, afgestoten	0	0	0	0	0

0% 1009

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Page 5:

Heeft u de informatie onder het label "Voetafdruk van jouw reis" bekeken?

Ja
Nee

0%
100%

Page 6:

In hoeverre bent u het eens of oneens met de volgende stellingen over het label "Voetafdruk van jouw reis"? Zeer mee Enigszins mee Niet mee eens, Enigszins mee oneens oneens niet mee oneens eens Zeer mee eens Het label is begrijpelijk 0 0 0 0 0 Het label is handig 0 0 0 0 0 Het label is betrouwbaar 0 0 0 0 0 Het label laat me nadenken over de CO2-voetafdruk (de CO2-uitstoot) van mijn 0 0 vakantie Het label heeft mijn 0 0 0 vakantiekeuze beïnvloed

Op welke manier heeft de beschikbaarheid van het label "voetafdruk van jouw reis" invloed op uw mening over TUI?

Op een negatieve manier

100%

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Geeft u alstublieft aan in hoeverre u de intentie heeft om de vakantie van uw keuze te boeken door middel van de volgende vragen:

	Zeer onwaarschijnlijk	Onwaarschijnlijk	Niet waarschijnlijk, niet onwaarschijnlijk	Waarschijnlijk	Zeer waarschijnlijk
Hoe waarschijnlijk is het dat u de vakantie van uw keuze zou boeken in het echte leven?	0	0	0	0	0
Hoe waarschijnlijk is het dat u zou blijven zoeken naar een andere vakantie in het echte leven, in plaats van één van deze drie vakanties te kiezen?	0	0	0	0	0

Op basis van uw ervaring op de webpagina, hoe waarschijnlijk is het dat u TUI aanbeveelt aan een vriend, familielid of collega?

Zeer onwa	arschijnlijk								Zeer w	aarschijnlijk
0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0

In hoeverre bent u het eens of oneens met de volgende stellingen? Zeer mee Enigszins mee Niet mee eens, Enigszins mee oneens oneens niet mee oneens eens Zeer mee eens Ik vind prijs een belangrijk aspect bij het boeken van een vakantie Ik vind de CO2-voetafdruk (de CO2-uitstoot) van mijn 0 0 0 0 0 vakantie een belangrijk aspect bij het boeken van een vakantie lk zou bereid zijn om een hogere prijs te betalen voor 0 0 0 0 0 een vakantie om de CO2uitstoot te verminderen

Page 8:

Wat is uw geslacht?
○ Man
○ Vrouw
Wat is uw leeftijd?
Hoeveel heeft u in de afgelopen 12 maanden aan een vakantie (vlucht en accommodatie) uitgegeven?
○ Minder dan € 200
O Tussen € 200 en € 300
O Tussen € 300 en € 400
O Tussen € 400 en € 500
O Tussen de € 500 en € 600
O Tussen de € 600 en € 700
O Tussen de € 700 en € 800
Meer dan € 800
Ik ben de afgelopen 12 maanden niet op vakantie gegaan

 Minder dan € 200 Tussen € 200 en € 300 Tussen € 300 en € 400 Tussen € 500 en € 500 Tussen € 600 en € 500 Tussen € 600 en € 700 Tussen € 700 en € 800 Meer dan € 800 Ik ga niet op zomervakantie Wat is uw maandelijks netto-inkomen? Geen inkomen Minder dan € 500 Tussen € 500 en € 1000 Tussen € 500 en € 1000 Tussen € 2000 en € 2500 Tussen € 2000 en € 2500 Tussen € 2000 en € 2500 Tussen € 2000 en € 3000 Meer dan € 3000 Ik weet het niet / ik wil het niet zeggen Wat is uw hoogst genoten opleiding? Basisschool VMBO HAVON/WO MBO HBO WO Anders (Nog) geen opleiding 	Hoeveel bent u van plan om uit te geven aan uw volgende zomervakantie (vlucht en accommodatie)?
Tussen € 300 en € 400 Tussen € 500 en € 600 Tussen € 600 en € 700 Tussen € 700 en € 800 Meer dan € 800 Ik ga niet op zomervakantie Wat is uw maandelijks netto-inkomen? Geen inkomen Minder dan € 500 Tussen € 500 en € 1000 Tussen € 500 en € 1000 Tussen € 500 en € 1000 Tussen € 1500 en € 2500 Tussen € 2000 en € 2500 Tussen € 2000 en € 2500 Meer dan € 3000 Mere dan € 3000	○ Minder dan € 200
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Tussen € 500 en € 600 Tussen € 600 en € 700 Tussen € 700 en € 800 Meer dan € 800 Ik ga niet op zomervakantie Wat is uw maandelijks netto-inkomen? Geen inkomen Minder dan € 500 Tussen € 500 en € 1000 Tussen € 500 en € 1000 Tussen € 1500 en € 2000 Tussen € 2000 en € 2500 Tussen € 2500 en € 3000 Meer dan € 3000 Meer dan € 3000 Ik weet het niet / ik wil het niet zeggen Wat is uw hoogst genoten opleiding? Basisschool VMBO HAVO/VWO MBO HBO WO Anders (Nog) geen opleiding	○ Tussen € 300 en € 400
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○ VMBO ○ HAVO/VWO ○ MBO ○ HBO ○ WO ○ WO ○ Anders ○ (Nog) geen opleiding	Wat is uw hoogst genoten opieiding?
 HAVO/VWO MBO HBO WO Anders (Nog) geen opleiding 	Basisschool
○ MBO ○ HBO ○ WO ○ Anders ○ (Nog) geen opleiding	○ VMBO
○ HBO ○ WO ○ Anders ○ (Nog) geen opleiding	
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O Anders O (Nog) geen opleiding	
O (Nog) geen opleiding	
0%	O (Nog) geen opleiding
	0% 100%

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