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Finding Sustainability Information for Holiday Travel

Bundesamt für Naturschutz

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NEW INSIGHTS FOR TOURISM

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Inhaltsverzeichnis

Einführung

Mit FINDUS wurde ein recht umfangreiches Forschungsvorhaben realisiert, das sich mit der Information über nachhaltige Reisen befasst. In rund eineinhalb Jahren wurden fünf Teilstudien mit überwiegend experimentellem Charakter durchgeführt.

Gegenstand des Vorhabens ist die Frage, ob und wie sich Urlauber, die keine ausgeprägte Nachhaltigkeitsorientierung haben, über die Nachhaltigkeitsaspekte einer Urlaubsreise informieren. Es geht also hier nicht um diejenigen Nachfrager, die sich in Sachen Nachhaltigkeit schon ganz gut auskennen, die richtigen Informations- und Vertriebswege kennen und wissen, worauf sie achten müssen, wenn sie die nachhaltigere Reisealternative wählen wollen. Vielmehr geht es hier um Nachfrager im touristischen Massenmarkt, die eine nachhaltigere Urlaubsgestaltung nicht unbedingt ablehnen, aber auch nicht gezielt nach den entsprechenden Informationen suchen.

Informationen zu diesem Nachfragesegment liegen aus der Reiseanalyse der Forschungsgemeinschaft Urlaub und Reisen vor. Neben der Grundlagenstudie aus dem Jahr 2014 (Günther, Grimm, Koch, Lohmann, & Schmücker, 2014) konnten auch aktuelle Referenzdaten aus der Reiseanalyse verwendet werden.

Die Detailergebnisse der fünf Teilstudien wurden bereits während der Projektlaufzeit in Arbeitsberichten (Working Papers) dokumentiert. Damit konnten wir interessierten Tourismusforschern und -praktikern in ganz Europa schnell relevante und detaillierte Informationen zur Verfügung stellen. Alle fünf Working Papers sind in englischer Sprache in diesem BfN-Skript wiedergegeben.

Der erste Teil dieses BfN-Skriptes in deutscher Sprache basiert auf diesen Detailergebnissen und fasst diese zusammen.

1 Anlass, Ziel und Aufbau des Vorhabens

1.1 Anlass

Das vom BMU geförderte Forschungsvorhaben „Nachfrage für nachhaltigen Tourismus“ (im Rahmen der FUR Reiseanalyse) beschrieb als wesentliche Hürde für mehr nachhaltiges Reisen neben dem Preis und fehlenden Produkten die schwierige Auffindbarkeit vorhandener nachhaltiger Tourismus-Angebote (Günther et al., 2014).

Anders als beispielsweise im Lebensmittelbereich finden Reiseinteressierte nachhaltige Produkte nicht oder nur sehr selten direkt neben konventionellen Produkten über die gängigen Vertriebswege, sondern müssen einen zusätzlichen Aufwand betreiben, um umwelt- und sozialverträgliche Angebote überhaupt zu finden. Je höher aber der Aufwand, desto unwahrscheinlicher wird es, dass es letztlich zu der Buchung einer solchen Reise kommt.

Gleichzeitig ist im Urlaubsreisemarkt (wie auch in anderen Segmenten des Tourismus) ein deutlicher Zuwachs für online gebuchte Reisen zu sehen. Von den langen Urlaubsreisen (mit Vorabbuchung, ab fünf Tage Dauer) wurden 2016 mehr als 40% online gebucht, davon entfällt rund die Hälfte auf Internetportale (Schmücker, Grimm, & Wagner, 2017). Bei kurzen Urlaubsreisen (zwei bis vier Tage) dürfte der Anteil noch höher liegen und es ist davon auszugehen, dass der Online-Anteil in den nächsten Jahren weiter steigt (Lohmann, Schmücker, & Sonntag, 2014, 2016).

Will man den Anteil nachhaltiger Reisen am Markt steigern, müssen die Reisewilligen über die entsprechenden Angebote gewissermaßen „stolpern“. Die Angebote müssen dort liegen, wo die potenziellen Gäste hinschauen und sie müssen leicht erkennbar sein. Heute sind nachhaltige Reisen vor allem über spezielle Anbieter und Informations- und Buchungswege für den Konsumenten erreichbar. Es wird zukünftig noch mehr als heute darauf ankommen, auch in den anderen touristischen Informations- und Buchungswegen an der passenden Stelle die richtige Information zu liefern und gewissermaßen einen „Anstupser“ oder „nudge“ (Thaler & Sunstein, 2008) für eine gute Entscheidung zu liefern.

Daher werden in dieser Studie nicht die speziellen Vermarktungswege für „sanftes“, „nachhaltiges“ oder „grünes“ Reisen in den Fokus genommen. Stattdessen sollen die im Markt verbreiteten Informations- und Buchungsmechanismen daraufhin untersucht werden, wie sie mit Informationen zur Nachhaltigkeit von Urlaubsreisen heute umgehen, welchen Stellenwert Konsumenten solchen Informationen geben und wie sich die Information optimieren lässt.

Die Untersuchungen basieren auf einer Reihe von weitgehend akzeptierten sozialwissenschaftlichen Theorien und knüpfen an aktuellen Versuchen zur Beeinflussung des Entscheidungs- und Informationsverhaltens von Konsumenten an. Diese sind insbesondere die Bezugnahme auf implizite Nachhaltigkeitsinformationen (Font, Garay, & Jones, 2016) und das Anstupsen oder *Nudging* durch Veränderung von Rahmenbedingungen der Entscheidung (Thaler & Sunstein, 2008).

1.2 Ziel

In diesem praxisorientierten Forschungsvorhaben wurden Möglichkeiten entwickelt und erprobt, die die Auffindbarkeit nachhaltiger Urlaubsreiseangebote auf gängigen (Online-) Buchungswegen verbessern und so die Anzahl von Buchungen solcher Angebote steigern können.

Als konkrete Einzelziele für das Forschungsvorhaben lassen sich definieren:

1. Ermitteln des aktuellen Status zur Verfügbarkeit von Nachhaltigkeitsinformationen im deutschen Urlaubsreisemarkt, insbesondere in Online-Buchungsportalen.
2. Ermitteln des Stellenwertes und der Position von Nachhaltigkeitsinformationen im Urlaubsreiseentscheidungsprozess.
3. Erarbeiten von Optimierungsschritten.

Diese drei Ziele werden mit konkreten Arbeitsschritten und Untersuchungsmethoden hinterlegt.

1.3 Aufbau

Der Untersuchungs- und Arbeitsplan gliedert sich in fünf Teilstudien, die sich an den oben genannten Zielen orientieren.

- In Teilstudie 1 wird der Status Quo der Verfügbarkeit von Nachhaltigkeitsinformationen bei der Vorbereitung von Urlaubsreisen mithilfe von Desktop-Recherchen erhoben. Ergebnis ist eine strukturierte Einschätzung der Marktsituation, die helfen soll, die folgenden Untersuchungsschritte möglichst realistisch zu gestalten.
- In den Teilstudien 2-5 wird der Stellenwert von Nachhaltigkeitsinformationen im Urlaubsreisentscheidungsprozess mit Hilfe von vier experimentellen Methoden erhoben
    - Im ersten Labor-Experiment wird eine Face-to-Face-IDM-Studie umgesetzt, um Daten zur Informationsaufnahme im Entscheidungsprozess zu erheben (Teilstudie 2).
    - Die Ergebnisse wurden in Teilstudie 3 mit Hilfe von Eye-Tracking-Verfahren in einem zweiten Labor-Experiment validiert und stärker an reale Stimuli angelehnt.
    - Im Befragungs-Experiment (Teilstudie 4) wurden Probanden online mit Auswahlsets konfrontiert. Damit wird der Stellenwert aus einer weiteren Perspektive experimentell untersucht.
    - Teilstudie 5 ist ein Feldexperiment, in dem in einer biotischen Umgebung (Online-Buchungsplattform) der Parameter „Nachhaltigkeitsinformation“ gezielt verändert und die aggregierte Konsumentenreaktion gemessen wird (A-B-Testing).

Die fünf Teilstudien wurden in Absprache mit dem BfN bereits während der Projektlaufzeit (September 2016 bis Juni 2018) in englischsprachigen Working Papers dokumentiert und online verfügbar gemacht, um einen schnellen, auch internationalen, Informationsfluss zu gewährleisten.

Die fünf *Working Papers* sind in diesem BfN-Skript wiedergegeben. Sie enthalten alle methodischen und analytischen Details der fünf Untersuchungsschritte, so dass wir uns im ersten, deutschsprachigen Teil auf eine geraffte Darstellung der wesentlichen Ergebnisse beschränken können.

1.4 Definitionen

Um die oben dargestellten Fragestellungen adäquat operationalisieren zu können, ist eine Definition wesentlicher Begriffe notwendig. Die folgenden Definitionen sind nicht immer allgemeingültig, sondern Arbeitsdefinitionen für die Zwecke dieses Projektes.

- „Urlaubsreisen“ sind überwiegend private Reisen zu Urlaubszwecken, die mindestens eine Übernachtung beinhalten. Sie umfassen sowohl Kurzurlaubsreisen (zwei bis vier Tage Dauer) als auch Urlaubsreisen ab fünf Tage Dauer. Damit fallen rein beruflich motivierte Reisen (insbesondere Geschäftsreisen, Bildungsreisen, Seminar- und Kongressreisen, sogenannte MICE-Reisen) aus der Definition heraus, ebenso private Reisen, die nicht vorzugsweise Urlaubszwecken dienen (insbesondere Besuchsreisen bei Freunden und Verwandten, sogenannte VFR-Reisen).
- „Urlaubsreiseangebote“ sind Dienstleistungsbündel, deren Bestandteile zusammengenommen den maßgeblichen Teil einer Urlaubsreise bilden. Dazu gehören (neben dem Reiseziel selbst) der Transport zum und vom Reiseziel und die Unterkunft. Weitere Bestandteile können hinzukommen. Auf die Art der Bündelung kommt es dabei nicht an: Enthalten sind sowohl vorgefertigte Produkte, die mindestens zwei wesentliche Bestandteile zu einem Preis enthalten (Pauschalreisen im Sinne der EU-Pauschalreiserichtlinie) als auch individuell zusammengestellte Produktbündel.
- „Informationen über die Nachhaltigkeit von Urlaubsreiseangeboten“ sind Beschreibungen von Eigenschaften der Urlaubsreiseangebote, die die Umwelt- oder/und Sozialverträglichkeit und/oder die regionale Wertschöpfung der Angebote betreffen. Sie können unterschiedliche Formate haben, z. B. die formlose Beschreibung in Worten, die Darstellung von erworbenen Zertifikaten, eigene, selbst definierte Kennzeichnungen des Anbieters, selbst generierte Werbeeinblendungen etc.

Auf eine Definition für „Nachhaltige Urlaubsreiseangebote“ können wir an dieser Stelle verzichten, denn in dieser Untersuchung kommt es primär auf die Nachhaltigkeits-Kennzeichnung, also die Information über die Nachhaltigkeit an. Es soll in erster Linie untersucht werden, wie die Information, also eine Kennzeichnung in verschiedenen Varianten, im Informations- und Entscheidungsprozess wirkt. Die Kennzeichnung kann sich insbesondere auf die ökologischen und sozialen Aspekte der Nachhaltigkeit beziehen.

2 Status Quo: Verfügbarkeit von Nachhaltigkeitsinformationen

Die Detailergebnisse zu dieser Teilstudie finden sich im Working Paper FINDUS 1 (Schmücker, Kuhn, & Weiß, 2016) ab Seite 23 dieses BfN-Skriptes.

2.1 Scope und Methode

In diesem Untersuchungsschritt wurden Online-Plattformen im deutschen Markt darauf hin untersucht, ob und welche Nachhaltigkeitsinformationen sie transportieren und wie dies geschieht. Dabei wurden neun verschiedene Arten von Online-Plattformen berücksichtigt (Tabelle 1).

Auf diesen Plattformen sind Informationen zu unterschiedlichen Urlaubsreisetypen und -bestandteilen zu finden (z. B. Pauschalreisen, Bausteinreisen, Last-Minute-Reisen, Nur-Unterkunft, Nur-Transport) die entsprechend differenziert untersucht und dargestellt werden müssen. Außerdem wurden die Destinationswebsites aller deutschen Bundesländer und die Destinationswebsites der beliebtesten internationalen Reiseziele der Deutschen in die Untersuchung einbezogen. Insgesamt wurden 48 gängige Tourismus-Websites untersucht.

Tabelle 1: Untersuchte Online-Plattformen

Typ	Anzahl	Beispiele
Online Travel Agency (OTA)	6	Expedia, Opodo, Travelscout24 […]
Buchungssysteme von Reiseveranstaltern	4	Jahnreisen, TUI, Thomas Cook, Neckermann […]
Destinationen DE	16	Websites aller 16 deutschen Bundesländer
Destinationen International	10	Polen, Kroatien, Frankreich, Niederlande […]
Andere kommerzielle Vermittler	12	
Last-Minute-Vermarkter	2	L'Tur, LastMinute.de
Hotelportale	4	HRS, Discavo, Trivago, Booking.de
Flugportale	2	Unister, Überflieger
Meta-Portale	2	Kayak, Momondo
Bewertungsportale	2	Holiday Check, TripAdvisor
Zusammen	48	

Im Rahmen der Recherche wurden in einem ersten Schritt Daten zur **expliziten** Nachhaltigkeitsinformation erhoben:

- ob Informationen über die Nachhaltigkeit von Urlaubsreiseangeboten vorhanden sind,
- welche Informationen über die Nachhaltigkeit von Urlaubsreiseangeboten vorhanden sind,
- wie die Informationen über die Nachhaltigkeit von Urlaubsreiseangeboten in Suche und Navigation einbezogen werden,
- ob es eigene Kategorien für Urlaubsreiseangebote gibt, die Nachhaltigkeitsaspekte besonders berücksichtigen,
- wie diese Kategorien bezeichnet und in die Navigation einbezogen werden.

Dabei wurden sowohl Zertifikate (und deren Symbole) als auch andere Formate einbezogen, bestehende Studien (Marsden et al., 2014) wurden berücksichtigt.

In einem zweiten Schritt wurden (soweit uns bekannt erstmals) Daten zur impliziten Nachhaltigkeitsinformation generiert. Damit sind Informationen über nachhaltige Reisebestandteile gemeint, die nicht mit dem Wort „nachhaltig“ oder ähnlich oder einem Label explizit gekennzeichnet sind, sondern implizit auf solche Qualitäten verweisen.

Die Recherche wurde schriftlich dokumentiert und teilweise als Screencast aufgezeichnet und anschließend ausgewertet.

2.2 Ergebnisse zu expliziten Nachhaltigkeitsinformationen

Die Websites wurden anhand der oben beschriebenen Kriterien untersucht. Das zusammengefasste Ergebnis zeigt Tabelle 2. Insgesamt zeigt die webbasierte Recherche zur Darstellung expliziter Nachhaltigkeitsinformationen, dass Mainstream-Plattformen den Aspekt der Nachhaltigkeit nur spärlich für Marketingzwecke nutzen. Rund 60% (18 von 48) der untersuchten Websites haben keine eigene Unterseite für diese Art von Informationen erstellt, und die Hälfte der Websites hat überhaupt keine "Nachhaltigkeit" in ihre Website-Navigation integriert. Nur 2 von 48 untersuchten Websites (4%) haben einen Filter für nachhaltige Reiseprodukte in ihre Suchmaske integriert, und nur 3 von 48 (8%) nutzen Informationen für nachhaltige Reiseangebote. Zwölf von 22 (55%) kommerziellen Plattformen haben überhaupt keinen Bezug zu Nachhaltigkeitsthemen, während alle vier untersuchten Reiseveranstalter zumindest Umweltlabels oder andere Nachhaltigkeitsinformationen verwenden.

Diese Ergebnisse verdeutlichen eine derzeit geringe Bedeutung expliziter Nachhaltigkeitsinformationen auf den gängigen Buchungsplattformen.

Tabelle 2: Ergebnisse zu expliziten Nachhaltigkeitsinformationen

Untersuchte Plattformen	OTAs	Reiseveranstalter	Andere kommerzielle Vermittler	Deutsche Bundesländer	Internationale Länder	Zusammen
Anzahl untersuchte Websites	6	4	12	16	10	48
1a) Eigene Unterseite zum Thema	2	4	3	7	2	18
1b) Angebote zum Thema	0	0	0	2	1	3
2) In Navigation enthalten	1	4	3	13	4	25
3) Filter- oder Auswahlmöglichkeiten	0	1	1	0	0	2
4) Ökolabel	0	3	2	5	3	13
Nichts davon	4	0	8	3	6	21

Darüber hinaus haben sechs von zehn untersuchten internationalen Destinations-Websites keines der Kriterien angesprochen. Die Buchungssysteme der Reiseveranstalter haben sich dagegen bei den meisten Kriterien gut behauptet. Obwohl es ihnen an Filtern für nachhaltige Reiseprodukte in ihren Suchmaschinen und Kategorien für nachhaltige Ange-

bote fehlt, schneiden sie in der Regel sehr gut ab, was die Kriterien für bestimmte Unterseiten, die Implementierung von Nachhaltigkeit in ihre Navigation, die Darstellung von Labels und Zertifikaten und die Abdeckung von Nachhaltigkeitsdimensionen betrifft. Die Gesamtperformance der deutschen Destinations-Websites war uneinheitlich. Drei Websites befassten sich mit keinem der untersuchten Aspekte, weitere elf mit zwei bis vier Aspekten, und nur eine deutsche Destinations-Website enthielt alle fünf Kriterien.

Bei der Analyse der Dimensionen der Nachhaltigkeit, die in den gegebenen Informationen angesprochen werden, scheinen die Websitebetreiber einen klaren Fokus auf ökologische Aspekte zu legen. Nur wenige Websites befassen sich mit der sozialen Dimension der Nachhaltigkeit, und die wirtschaftliche Nachhaltigkeit bleibt in der Stichprobe fast vollkommen unberücksichtigt. Die Fokussierung auf die ökologische Dimension wird auch durch die auf den untersuchten Websites dargestellten Umweltlabels und "grünen" Zertifikate deutlich, da sie vor allem Umweltaspekte des Tourismus betreffen. Etwa 30% der untersuchten Websites nutzten solche Labels, wobei nur wenige Labels auf mehr als einer Website auftauchten, was einen geringen Wiedererkennungswert der Labels nach sich ziehen dürfte. Die Tatsache, dass 23 untersuchte Websites insgesamt 23 verschiedene Umweltzeichen und Zertifizierungen verwendet haben, zeigt die Notwendigkeit einer besseren Koordinierung der Umweltzeichensysteme in Deutschland.

Eine ergänzende Analyse von Suchworten in der marktbeherrschenden Suchmaschine Google ergab hinsichtlich der semantischen Ausrichtung von nachhaltigem Reisen ebenfalls eine klare Fokussierung auf ökologische Aspekte.

2.3 Ergebnisse zu impliziten Nachhhaltigkeitsinformationen

Um neben der expliziten auch die implizite Nachhaltigkeitskommunikation in die Untersuchung einzubeziehen, haben wir insgesamt 30 touristische Angebote von den Websites Expedia.de, Jahnreisen.de, Neckermann.de, TUI.de und Opodo.de einer Inhaltsanalyse unterzogen (axiale Kodierung).

In den 30 untersuchten Angeboten wurden 34 implizite Nachhaltigkeits-Schlüsselinformationen gefunden. In 21 (62%) wurde auf Umweltorganisationen Bezug genommen, nur in 7 (21%) auf den Veranstalter selbst. Noch drastischer fällt die Bilanz bei der Betrachtung des Beschreibungsgegenstandes aus: Von 34 untersuchten Informationen bezogen sich 30 auf die Destination und 4 auf das Produkt. Mit anderen Worten: Ein Großteil der impliziten Nachhaltigkeitsinformationen bezieht sich auf die Beschreibung der Destination als Schutzgebiet, nicht aber auf aktive Bemühungen für die Nachhaltigkeit des Reiseproduktes!

3 Stellenwert der Nachhaltigkeitsinformation

Im Rahmen dieses Untersuchungsteiles wurden Daten zum Stellenwert von Nachhaltigkeitsinformationen im Informationsprozess von Urlaubern erhoben. Dazu wurden verschiedene Methoden angewendet.

3.1 Scope und Methoden

Zunächst wurde das Verfahren der Information Display Matrix (IDM) angewendet und um eine Webvariante, das *IDW – Information Display Webboard*, erweitert. Bei beiden Verfahren werden Informationen von den Probanden aufgedeckt. Damit wird nachvollziehbar, welche Informationen in welcher Reihenfolge genutzt werden. Das Verfahren ist sehr präzi-

se und die sichtbaren Informationen sind sehr genau steuerbar, allerdings ist die Situation für den Probanden recht künstlich. Detailbeschreibungen zur Methode der IDM- und IDW-Studien finden sich im Working Paper FINDUS 2 ab S. 55 (Schmücker, Kuhn, & Günther, 2017).

Um einer realistischen Situation näher zu kommen, haben wir im nächsten Schritt realistische Websites nachgebildet und die Informationsaufnahme mit Hilfe von Blickverfolgungskameras gemessen. Die moderne apparative Blickverfolgung ist in der Lage, auch nicht bewusst gesteuerte Informationsaufnahmen zu messen und dies auch in weniger stark strukturierten (und damit verfremdeten) Formaten als die IDM/IDW-Experimente. Detailbeschreibungen zur Methode der Blickverfügung finden sich in Working Paper FINDUS 3 ab S. 103 (Schmücker, Kuhn, & Horster, 2018); vertiefte Ergebnisse zu Teilaspekten finden sich in der Arbeit von Kuhn (2017).

Um die Realitätsnähe noch weiter zu steigern, wurden weitere Messungen an einer realen Website durchgeführt. In Zusammenarbeit mit Vamos Eltern-Kind-Reisen wurden die Klickraten auf der Website vamos-reisen.de bei gezielter Manipulation der Einblendungen zum Thema Nachhaltigkeit gemessen. Detailbeschreibungen zur Methode des Feldexperimentes finden sich in Working Paper FINDUS 5 ab S. 176 (Schmücker & Günther, 2018a).

In einer Befragungsstudie haben wir darüber hinaus 600 Probanden in experimentell kontrollierte Entscheidungssituationen versetzt, so dass sie sich zwischen zwei alternativen Urlaubsprodukten entscheiden sollten. Dabei wurden verschiedene Befragungsformate (mit und ohne Kostenargument und mit offener Frage nach einem angemessenen Preis) eingesetzt. Für jeweils die Hälfte der Probanden wurde zudem das Informationsumfeld gezielt beeinflusst, einmal in Richtung Komfort und einmal in Richtung Nachhaltigkeit („Priming“). Detailbeschreibungen zur Methode dieser Befragungsstudie finden sich in Working Paper FINDUS 4 ab S. 140 (Schmücker & Günther, 2018b).

Mit dem gewählten Methodenmix kann ein recht weites Feld von Fragestellungen untersucht werden. Jede der eingesetzten Methoden hat ihre spezifischen Schwächen und Stärken, so dass sich in der Zusammenschau der Ergebnisse gut belastbare zentrale Aussagen ableiten lassen.

Tabelle 3: Übersicht der Methoden und Verweis zu den Detailbeschreibungen

Working Paper	Methode	Typ	Probanden	Details ab Seite
FINDUS 2	IDM/IDW	Studio-Experimente	40 Flugreisende + 40 Deutschlandreisende	→ 55
FINDUS 3	Blickverfolgung	Studio-Experimente	33 Flugreisende	→ 103
FINDUS 4	Online-Befragung	Choice-Experimente mit Priming	600 Befragte	→ 140
FINDUS 5	Feldexperiment	Real-Experimente online	8.677 Visits	→ 176

3.2 Ergebnisse zum Stellenwert von Nachhaltigkeitsinformationen

Eines der Hauptergebnisse der IDM-/IDW-Studie ist, dass Nachhaltigkeitsinformationen bei Urlaubsprodukten die geringste Aufmerksamkeit aller verfügbaren Informationen erhalten.

Dies gilt für ein Experiment mit 15 Informationsattributen, was angesichts der tatsächlich auf Online-Plattformen vermittelten Informationsmenge eine konservative Zahl an Attributen ist. Nachhaltigkeitsinformationen erhalten aber auch nicht spürbar mehr Aufmerksamkeit im Vergleich zu anderen Kategorien, wenn die Zahl der Konkurrenten um Informationskategorien auf sechs reduziert wird.

Zweitens konnten wir feststellen, dass mehr als 30 der Probanden das vorhandene Nachhaltigkeits-Label ignorieren - selbst in einem experimentellen Umfeld mit einem sehr effizienten tabellarischen Layout der Informationskategorien.

Drittens führt auch die Darstellung des Umwelt- und Nachhaltigkeitslabels auf einer Produktauswahlseite (also der Kurzübersicht vor den Detailinformationen) nicht zu einer intensiveren Beschäftigung mit dem jeweiligen Produkt. Die auf der Auswahlseite angezeigten Labels hatten zudem keinen wesentlichen Einfluss auf die Wahrnehmungshäufigkeit und -tiefe eines Produktes.

Allerdings wird das neutralere Attribut "Highlights" etwas intensiver wahrgenommen. Wenn Nachhaltigkeitsinformationen nicht als Label, sondern in einem Erlebnisumfeld verpackt dargeboten werden, steigt die Intensität der Informationsbeschaffung statistisch signifikant an. Erlebnisorientierte Produktbausteine, die Nachhaltigkeit implizit vermitteln (statt eines expliziten Labels) können mehr Aufmerksamkeit bei den Kunden finden.

Gleichlautend mit den Ergebnissen aus der IDM-/IDW-Studie konnten wir auch bei der apparativen Blickverfolgung (Eye Movement Tracking) feststellen, dass Nachhaltigkeits-Labels nur geringe Aufmerksamkeit finden: Die Befragten sehen Nachhaltigkeitslabels nur in zwei bis drei Prozent aller Fixationen und auch in zwei bis drei Prozent der gesamten Betrachtungszeit an. Nachhaltigkeitslabels werden damit nicht häufiger oder länger angesehen als andere Labels, die sich auf Destinations-, Sport- oder Preisinformationen beziehen. Die geringe Aufmerksamkeit liegt übrigens nicht daran, dass die Label schlecht zu finden oder zu interpretieren wären, denn wenn man die Probanden entsprechend instruiert, haben sie keine Schwierigkeiten, die passende Information zu finden.

Interessanterweise konnten wir feststellen, dass die Wahrnehmung von Nachhaltigkeitsinformationen mit einer steigenden Wahrnehmung von Details und vor allem Preisinformationen einhergeht: Wenn auf einer simulierten Website Nachhaltigkeitslabels eingeblendet werden, geht der Blick signifikant häufiger zum Preis.

Wir haben die geringe Bedeutung expliziter Nachhaltigkeitsinformationen auch in einem realen Umfeld auf einer produktiven Website getestet. Das Ergebnis ist dasselbe: Eine Einblendung, die „nachhaltigen Urlaub“ verspricht, erhält nur etwa ein Sechstel der Klickraten, die an dieser Position zu erwarten gewesen wäre. In einer statischen Umgebung von neun Panels (Teaserbereich) erhält das nachhaltige Urlaubsangebot die wenigsten Klicks in der Produktkategorie und auch deutlich weniger Klicks im Vergleich zu einer gleichzeitigen nachhaltigkeits-neutralen Werbung.

3.3 Einflussfaktoren und Veränderung des Informationsumfeldes

3.3.1 Einstellungen gegenüber Nachhaltigkeit

Ein von uns gemessener Einflussfaktor ist die Einstellung gegenüber nachhaltigem Reisen. Damit ist gemeint, wie wichtig einem Probanden eine ökologisch und/oder sozial verträgliche Urlaubsreise ist. In allen Untersuchungsphasen wurde darauf geachtet, ob die Proban-

den hinsichtlich dieser Einstellungen mit der Masse der Urlaubsreisenden in Deutschland vergleichbar sind. Referenzdaten wurden den letzten Jahrgängen der FUR Reiseanalyse entnommen. In allen Teilstudien wurde die Einstellung gegenüber nachhaltigem Reisen zu Beginn der Datenerhebung gemessen, um ein möglichst unbeeinflusstes Bild dieser Grundeinstellung zu erhalten.

Tatsächlich haben wir in *keiner* der drei Teilstudien (IDM/IDW mit 80 Probanden, Eye-Tracking mit 33 Probanden, Choice-Experimente mit 600 Probanden) einen signifikanten Einfluss der positiven Einstellungen auf eine Bevorzugung der nachhaltigeren Alternative messen können. Das bedeutet: Einer Äußerung, dass einem Probanden oder einer Probandin ökologisch oder sozial nachhaltige Ferien wichtig sind, folgt regelmäßig keine entsprechende Reaktion im Hinblick auf die Informationswahrnehmung. Dies gilt jedenfalls für typische Massenurlaubsprodukte und durchschnittlich an Nachhaltigkeit interessierten Nachfragern.

Allerdings konnten wir im Choice-Experiment zeigen, dass eine positive Einstellung gegenüber nachhaltigem Reisen zwar nicht zu höherer Präferenz der nachhaltigeren Alternative, aber zumindest zu einer Vermeidung der nicht-nachhaltigen Alternativen führt: Der Anteil der Befragten, die der Entscheidung ausweichen, nimmt mit positiver Einstellung zu. Selbst bei Vorliegen einer positiven Grundeinstellung führt die Auszeichnung als „nachhaltig“ tendenziell also zu einer Art „Entscheidungswarteschleife“, aber nicht zu einem Präferenzurteil.

3.3.2 Implizite Informationsdarbietung

In den IDM/IDW-Experimenten konnten wir messen, dass die Darbietung von Nachhaltigkeitsinformationen in impliziter Form einen kleinen, aber signifikanten Wahrnehmungsvorteil erreicht. Statt eines Ökolabels wurden den Probanden Erlebnisbausteine mit eindeutig „nachhaltigem“ Inhalt angeboten (ein Beispiel ist im Kasten wiedergegeben, die komplette Liste der Erlebnisbausteine findet sich im Anhang zu Working Paper FINDUS 2).

> Folgen Sie dem Ruf „Teno braucht Dich“, um dem Seeigel „diadema antillarum“ zu Leibe zu rücken. Die Seeigel fressen vor der Küste von Punta de Teno alles, was sie bekommen können und hinterlassen eine ökologische Wüste. Zusammen mit der Naturschutzstation an der Punta de Teno sammeln wir die Seeigel vom Meeresgrund.
>
> Wenn Sie schon einen Taucherschein haben, können Sie uns sofort bei der Bekämpfung der Seeigel unterstützen. Sie haben keinen Taucherschein und wollen trotzdem aktiv werden? Kein Problem! Innerhalb von vier Tagen können Sie in der nahegelegenen Tauchschule Ihren Tauchschein machen (gegen Gebühr), und uns dann bei dem Schutz der Unterwasserwelt helfen.
>
> Sie profitieren nicht nur durch den Einblick in eine spektakuläre Welt, sondern auch durch das gute Gefühl, etwas für die Umwelt getan zu haben.
>
> Diese Aktion können Sie exklusiv vor Ort bei unserer Reiseleitung buchen.

Der Effekt dieser impliziten Informationsauszeichnung ist allerdings recht klein und reicht gerade, um die statistische Signifikanzschwelle zu überspringen.

3.3.3 Priming

In den Onlinebefragungen mit diskreten Choice-Experimenten haben wir in der Mitte der Interviews die Probandinnen und Probanden jeweils zur Hälfte in Richtung auf mehr Komfort oder mehr Nachhaltigkeit ge-primed, indem wir sie nur nach Präferenzen für positive Aspekte von Komfort bzw. Nachhaltigkeit und nach Ablehnung von negativen Aspekten bei

Komfort bzw. Nachhaltigkeit gefragt haben. Wir haben also die Probanden keinesfalls “belehrt”, dass Komfort oder Nachhaltigkeit gut und wünschenswert sind. Wir haben auch nicht vor den negativen Konsequenzen von fehlendem Komfort oder fehlender Nachhaltigkeit gewarnt oder darauf hingewiesen, dass man auch bestimmte Schlüsselinformationen wie Komfort-Sterne oder Nachhaltigkeitslabels achten solle. Wir haben lediglich Fragen gestellt, die das jeweilige Thema, Komfort oder Nachhaltigkeit, bei den Befragten präsent halten und damit versucht, die Präferenzurteile in jeweils eine Richtung zu „stupsen“. Wir gehen davon aus, dass die Befragten sich dieser Aspekte im zweiten Teil der Untersuchung bewusster sind als die Befragten der Gegengruppe.

Im Ergebnis zeigt das Priming Wirkung in beide Richtungen. Die Gruppe, die in Richtung Nachhaltigkeit geprägt wurde, zeigt höhere Präferenzen für Nachhaltigkeitsaspekte, die andere Gruppe zeigt höhere Präferenzen für Komfortaspekte. Das Ausweichverhalten (also die Auswahl keiner der beiden angebotenen Alternativen) ist aber weiterhin vorhanden, wenn auch in abgeschwächter Form.

In Bezug auf die Zahlungswilligkeit funktioniert das Priming bei der Nachhaltigkeit aber etwas weniger gut als beim Komfort: Zwar steigt die Präferenz für eine nachhaltigere, aber teurere Alternative in der Nachhaltigkeitsgruppe, aber längst nicht in dem Ausmaß wie in der Komfortgruppe. Die Auswahl der weniger nachhaltigen Alternative nimmt wiederum zugunsten der Unsicherheit (keine Auswahl) ab. Ist also die nachhaltigere Alternative auch mit höheren Preisen verbunden (in unserem Fall beträgt der Preisunterschied ca. 10%), so wirkt die Grundeinstellung sogar etwas stärker als das Priming – aber nur wenn beide Faktoren vorliegen (eine positive Einstellung allein bewirkt noch keine Veränderung des Präferenzurteils zugunsten der nachhaltigeren Alternative). Lässt man den Probanden nicht die Auswahl zwischen vorgegebenen Alternativen (inklusive der Möglichkeit, keine auszuwählen), sondern fragt nach einem angemessenen Preis für die bessere (also hier die nachhaltigere Reise), so wirkt die Grund-Einstellung etwa genauso stark wie das Priming – aber wiederum nur dann, wenn beide Faktoren vorliegen.

In jedem Fall führt aber die Kombination aus positiver Grundeinstellung gegenüber Nachhaltigkeit und einer Veränderung des Informationsumfeldes zu den höchsten Präferenzraten bzw. Zahlungsbereitschaften für die nachhaltigere Alternative.

4 Optimierungsmöglichkeiten der Nachhaltigkeitsinformation

Aus den Ergebnissen der fünf FINDUS-Teilstudien lassen sich folgende Kernpunkte zusammenfassen:

- Nachhaltigkeits-Labels und -Kennzeichnungen gibt es zwar in großer Zahl, sie werden aber nicht durchgehend angewendet, und wenn sie verwendet werden, dann in heterogener Form. Insgesamt liegt der Marktanteil zertifizierter Produkte im niedrigen einstelligen Bereich.
- Wenn kommerzielle Anbieter auf Nachhaltigkeitsaspekte der Reise verweisen, dann beziehen sie sich in der Regel auf (kostenlos verfügbare) Destinationsaspekte, aber nicht auf die eigenen Leistungen.
- Probanden, die als typisch für die Masse der deutschen Urlaubsnachfrager und -nachfragerinnen gelten können, beachten Nachhaltigkeitskennzeichnungen nur sehr, sehr nachrangig, wenn überhaupt. Viele andere und für die individuelle Entscheidung in der Regel relevantere Informationen konkurrieren um die Aufmerksamkeit.

- Veränderungen des Informations-Formats (in welcher Form die Informationen angeboten werden), des quantitativen Informationsumfeldes (wie viele Informationen angeboten werden) und der Informationsreihenfolge bringen keine signifikanten Reaktionsveränderungen.
- Einer Einstellungs-Äußerung, dass einem Urlauber oder einer Urlauberin ökologisch oder sozial nachhaltige Ferien wichtig sind, folgt regelmäßig keine entsprechende Reaktion im Hinblick auf die Informationswahrnehmung.
- Eine positive Grundeinstellung führt tendenziell zu einer Art „Entscheidungswarteschleife“, aber nicht zu einem Präferenzurteil zugunsten der nachhaltigeren Alternative.
- Die gezielte Beeinflussung der Probandinnen und Probanden zeigt Wirkung: Eine (von den Probanden und Probandinnen unbemerkte) Orientierung auf Nachhaltigkeitsaspekte führt durch ein ins Blickfeld Rücken von Nachhaltigkeitsthemen im direkten Umfeld der Entscheidung im Experiment zu einer deutlichen und statistisch signifikanten Veränderung der Auswahlentscheidungen: Nachhaltigere Alternativen werden signifikant häufiger gewählt und weniger nachhaltige Alternativen signifikant häufiger abgelehnt (d.h. als nicht-nachhaltig wahrgenommene Produkte werden vermieden und die Entscheidung wird verschoben). Zudem verstärkt die Veränderung des Informationsumfeldes die Wirkung einer vorher vorhandenen positiven Nachhaltigkeitseinstellung, indem nun tatsächlich positive Einstellungen in Präferenzurteile umgemünzt werden – ohne das Priming war nur ein Ausweichverhalten messbar.

Die Ergebnisse zeigen aus unserer Sicht deutlich, dass es nicht damit getan ist, innerhalb des Paradigmas der heutigen Nachhaltigkeitskennzeichnungen (Labels und Zertifikate) Veränderungen vorzunehmen, um eine deutliche Veränderung hin zu größerer Nachfrage nach nachhaltigeren Alternativen bei Urlaubsreisen hervorzurufen. Vielmehr scheint es notwendig zu sein, das Paradigma zu ändern.

Das heutige Paradigma besteht im Wesentlichen aus einer marktregulierten Freiwilligkeit mit relativ hohen, aber weitgehend externalisierten Kosten des Reisens sowohl bei ökologischen als auch bei sozialen Aspekten. Reisen selbst wird, jedenfalls im Quellmarkt Deutschland, eher billiger als teurer – einerseits steigt strukturell die Nachfrage nach höherwertigen Reisen wie Fernreisen oder nach Hotelunterkünften, andererseits ziehen die durchschnittlichen Reiseausgaben gerade mit der Inflation gleich. Die ökologischen und sozialen Kosten des Urlaubs werden weitgehend externalisiert, also nicht in Marktpreisen auf den Verbraucher oder die Verbraucherin umgelegt. In dieser Hinsicht sind Urlaubsreisen zwar keine Ausnahme vom allgemeinen Mobilitäts- und Wirtschaftsgeschehen, aber eben auch betroffen.

Für die Etablierung der nachhaltigeren Urlaubs-Alternative gibt es in diesem Paradigma nicht nur kaum Anreize auf Seiten der Anbieter, sondern auch, wie hier gezeigt, kaum Interesse auf Seiten der Nachfrager – selbst wenn die in Befragungen geäußerten Einstellungen zuweilen einen anderen Eindruck vermitteln.

Eine Möglichkeit zur Veränderung des Paradigmas könnte nach den vorliegenden Untersuchungsergebnissen darin bestehen, darauf hinzuwirken, dass die nachhaltigere Alternative gewissermaßen zur Selbstverständlichkeit oder zum Standard wird. Als Begründung dafür ließe sich anführen, dass die nachhaltigere Alternative die Kosten für die Gemeinschaft reduziert und damit eine ungerechte "Umlage" dieser Kosten auf die gesamte Bevölkerung verringert. Damit träfen die Verbraucherinnen und Verbraucher ihre Reiseentscheidung in

einem anderen Entscheidungsumfeld. Aus den Priming-Studien ist zu sehen, dass dann positive Nachhaltigkeits-Einstellungen auch deutlich besser (oder überhaupt erst) zum Zuge kommen als im heutigen Industriestandard.

Wie kann eine solche Paradigmenänderung praktisch erfolgen? Zunächst können generische (nicht tourismus-spezifische) Wege weiter gegangen werden. Eine Hebung des allgemeinen Umwelt- oder Nachhaltigkeitsbewusstseins durch Aufklärung und Information kann zu einer Veränderung der Einstellung zur Nachhaltigkeit und zu einer größeren Kompetenz zur Nachhaltigkeit der Verbraucherinnen und Verbraucher auch bei der Reiseentscheidung führen. Damit wirken solche Maßnahmen auf das Entscheidungsumfeld. Wie gezeigt, gibt es bei Vorliegen positiver Einstellungen gegenüber Nachhaltigkeit eine deutliche Tendenz, nicht-nachhaltige Angebote zu vermeiden. Dies wäre schon ein Impuls in die gewünschte Richtung. Dies allein hat aber, wie gezeigt, noch wenig direkten Einfluss auf die Entscheidung für nachhaltigere Angebote, wenn nicht gleichzeitig tourismus-spezifische Anpassungen erfolgen.

Eine spezifische Möglichkeit wäre die weitergehende und ggf. verbindlich vorgeschriebene Ausstattung von Tourismusangeboten mit Nachhaltigkeitskennzeichnungen. Dies könnte in Form von Siegeln oder auch über die transparente Angabe von Werten für definierte Kennziffern (z. B. CO2-Fußabdruck, Anteil regionaler Wertschöpfung, Ressourcenverbrauch, ...) geschehen. Diese Kennzeichnung müsste durch eine umfassende Kommunikation begleitet werden, so dass die nachhaltigere Alternative zum Quasi-Standard wird. Die Durchsetzung *eines* Nachhaltigkeitslabels dürfte diesen Weg erleichtern.

Eine weitere Möglichkeit zur Stimulation der Nachfrage nach Nachhaltigkeit beim Reisen wäre das vermehrte Angebot von erlebnisorientierten und gleichzeitig nachhaltigen Reisebausteinen (vgl. das Seeigel-Beispiel zuvor). Diese Angebote sollten allerdings für die Mehrheit der Bevölkerung (Massenmarkt) preislich im Rahmen vergleichbarer weniger nachhaltiger Produkte liegen, da in der Masse der Nachfrager keine positive Zahlungsbereitschaft für nachhaltigere Angebote zu erwarten ist (die Nachhaltigkeit des Angebotes hat in der Regel keinen hinreichenden ökonomischen Wert, der eine Preiserhöhung aus individueller Perspektive rechtfertigt). Wettbewerbsvorteile müssten in diesem Fall nicht über nachhaltigere Produkteigenschaften, sondern durch besondere Attraktivität in anderen Bereichen generiert werden. Es bleibt zu prüfen, ob die öffentliche Hand Möglichkeiten sieht, ein solches Engagement der Anbieter auf andere Weise zu honorieren (Beispielsweise durch bevorzugte Kommunikation im Marketing oder zusätzliche Leistungen).

Schließlich wäre es denkbar, dass Anbieter selbst in breiterem Rahmen als bisher umfassend und gut sichtbar über die Wirkungen von Urlaubsreisen in ökologischer und sozialer Hinsicht informieren und damit das Priming gewissermaßen selbst in die Hand nehmen. Das kann für den Anbieter erfolgversprechend sein, wenn er von diesem veränderten Entscheidungsumfeld selbst partizipiert, indem zum Beispiel dann die nicht-nachhaltige Alternative (anderer Anbieter) von seinen Kundinnen oder Kunden weniger oft zugunsten eigener nachhaltigerer Produkte gewählt würde. Einzelne Anbieter tun dies bereits mit gutem Erfolg (z.B. Mitglieder des forum anders reisen). Der Massenmarkt bleibt davon allerdings bisher unberührt.

Seitens der Politik könnte die Realisierung der beschriebenen Optionen in verschiedener Hinsicht unterstützt werden:

- Durch die Stärkung des allgemeinen Umwelt- oder Nachhaltigkeitsbewusstseins über Aufklärung und Information allgemein und zum nachhaltigen Reisen im Speziellen. Dies kann sowohl direkt von der öffentlichen Hand oder über entsprechende Projektförderungen an geeignete Partner geschehen.
- Durch eine Regulierung über gesetzliche Standards - beispielsweise eine allgemeine Kennzeichnungs- und Informationspflicht.
- Durch Initiieren eines branchenübergreifenden Dialogs mit dem Ziel einer verbesserten Information und Transparenz zu Nachhaltigkeit beim Reisen und einer entsprechenden einheitlichen Kennzeichnung touristischer Angebote
- Durch eine positive Verstärkung und Förderung bestehender erfolgversprechender Ansätze. Diese sollte nach den Erkenntnissen der vorliegenden Studie künftig noch stärker als bisher in Richtung einer Standardisierung und flächendeckenden Durchsetzung von Nachhaltigkeitsinformationen gehen.

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Working Paper FINDUS 1: Status Quo

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1 Introduction

We mainly address the question if and how sustainability information is perceived and evaluated by consumers and how the provision of information could be improved in order to increase sales of more sustainable holiday tourism products. For this investigation, we used the dimensions of 'explicit' and 'implicit' cues as suggested by a number of recently published studies on sustainability messages. 'Explicit' sustainability information clearly denotes a product as being in the sustainable category (e.g. through labels, through menu categories on websites or through search filters to be ticked by the user), while 'implicit' sustainability information transports the sustainability message without explicitly calling it so (see section 2.4 of this paper for more detailed information).

To have a sound basis for the whole project, we briefly outline some of the conceptual frameworks (chapter 2) which will help to implement our own fieldwork. After that, we will discuss some main results of previous studies illuminating the demand side of sustainability information in a holiday travel context (chapter 3).

In the fourth chapter, we will provide some original insights into the status quo on the supply side of (holiday) tourism information in the German market: Here, we analyse if and how explicit and implicit cues are being offered by various electronic platforms.

2 Conceptual frameworks

The following paragraphs shortly discuss some of the main conceptual frameworks to be used in the assessment of the acquisition and processing of sustainability information. These frameworks stem from a number of disciplines and have mostly been used extensively in the context of consumer research.

2.1 Behavioural economics and 'nudging'

Behavioural economics goes back to the seminal papers of Amos Tversky and Daniel Kahneman (Tversky & Kahneman 1974; Kahneman & Tversky 1979) and has since then inspired numerous studies about decision making results and processes in the light of the many inconsistencies inherent to human behaviour. Specifically, behavioural economics has shown that human information processing and decision making is frequently affected by anomalies and systematic biases and often relies on heuristics and cues rather than systematic elaboration of available and relevant information. Among many others, the concept of *loss aversion* (people tend to dislike possible losses more than they like possible gains) and the role of *context* in decision situations can provide insights when studying information behaviour (Kahneman 2011, applied to tourism: Huang et al. 2016).

One variant of the discipline deals with information and choice architecture (Thaler & Sunstein 2008). For our research, we will adapt not so much their idea of 'libertarian paternal-

ism', but rather will try to use the concept of 'nudges' in the meaning of: changing the information environment instead of the product or the information itself. This concept makes extensive use of 'defaults', meaning the presentation of the decision environment that a customer will have a higher possibility to choose one option (the default) over another (Goldstein, Johnson, Herrmann, & Heitmann 2008). Usually, the default will be the option preferred by the choice architect, although not necessarily by the consumer. This idea has been applied in various contexts, including that of 'green' behaviour (Pichert & Katsikopoulos 2008).

2.2 Theories of Reasoned Action/Planned Behaviour

The Theory of Reasoned Action (TRA; Fishbein & Ajzen 1975) and Ajzen's (1991) revision as the Theory of Planned Behaviour (TPB) have both aimed at providing insight into the relationship between an individual's attitude towards an object, subjective norms and the consequently demonstrated behaviour. Both theories suggest a direct link between attitude and behaviour, in the sense that normative beliefs as well as received information shape an individual's subjective norms and attitude, which in turn are immediate predictors of the behavioural intention and consequent behavioural performance (Madden, Ellen & Ajzen 1992). Ajzen supplemented an additional variable into the model, namely the individual's perceived control over a specific behaviour. The 'perceived control' can be exemplified by a person's belief in the personal capability or the presence of necessary requisites to accomplish behaviour. Here, perceived control over behaviour can affect both the behavioural intention as well as the behaviour itself depending on the amount of perceived control over behaviour.

Both the TRA as well as the TPB share the basic assumption that a change of attitude and beliefs results in a change of behavioural intention and thus in a resulting change of behaviour (Madden, Ellen & Ajzen 1992). Even though the two theories have experienced approval and consent by a number of scholars over the last decades (e. g. Armitage & Conner 2001; Sheppard, Hartwick & Warshaw 1988, in a tourism context Priskin et al. 2015), the basic assumption that attitude change *predicts* behavioural change has proven inaccurate and inappropriate in individuals' sustainability performance. This becomes apparent in the literature, in which a number of the reviewed studies found that there is a general and substantial positive attitude towards sustainability in society, however a positive attitude towards a more sustainable travel option does not necessarily lead to preference building and choice (Karlsson & Dolnicar 2016; Günther et al. 2014; Hibbert et al. 2013; Juvan & Dolnicar 2013; Wehrli, Schwarz & Stettler 2011; Travelhorizons 2009; Weaver 2008; Dolnicar & Leisch 2008). This reveals a shortcoming in the TRA and TPB, as the intention to behave sustainably does not translate into actually performed behaviour with significant frequency.

2.3 Elaboration Likelihood Model of Persuasion and consumer involvement

The Elaboration Likelihood Model of Persuasion (ELM; Petty & Cacioppo 1981; Petty, Cacioppo & Schumann 1983) describes two 'routes' of information: The *central route*, involving high cognitive effort, and the *peripheral route*, involving low cognitive effort (cf. Figure 1 in the appendix, p. 54).

The core idea of the ELM in the context of consumer research is best described by their original authors: 'The basic tenet of the ELM is that different methods of inducing persua-

sion may work best depending on whether the elaboration likelihood of the communication situation (i.e., the probability of message- or issue-relevant thought occurring) is high or low. When the elaboration likelihood is high, the central route to persuasion should be particularly effective, but when the elaboration likelihood is low, the peripheral route should be better: 'The implications of this are that when the arguments in a message are 'strong', persuasion can be increased by enhancing message scrutiny but reduced by inhibiting scrutiny. However, when the arguments are weak, persuasion can be increased by reducing scrutiny, but can be decreased by enhancing scrutiny.' (Petty & Cacioppo 1986, p. 152).

The ELM contends that as an issue or product increases in personal relevance or consequences, it becomes more important and adaptive to forming a reasoned and veridical opinion. Thus, people are 'more motivated to devote the cognitive effort required to evaluate the true merits of an issue or product when involvement is high rather than low.' (Petty, Cacioppo & Schuman 1983, p. 137).

Based on the model, some effect chains can be derived, e.g. those discerning high and low involvement:

- High involvement probably leads to a high elaboration likelihood. This, in consequence, will trigger the central route of persuasion and thus, attitude change results from a person's diligent consideration of information (e.g. narrowing down the set of alternatives).
- Low involvement probably leads to a low elaboration likelihood. This will trigger the peripheral route of persuasion and thus, attitude change results from existence of cues and inferences (primary cues: attitudinal inference, own latitude of acceptance and rejection, transient situational utility, classical conditioning; secondary cues such as pleasant pictures and attractive endorsers) which are specifically suited for mere exposure effects.

As examples for the information processes based on the two routes in the ELM, we can use set theory (as an example of the central route) and the mere exposure effect (as an example of the peripheral route).

- The idea of consumer choice processes narrowing down the *set of alternatives* has been developed in the 1960s (Howard & Sheth 1967) and has subsequently been applied to choice processes in holiday tourism (Thompson & Cooper 1979; Woodside & Lysonski 1989; Crompton 1992). The basic idea of 'narrowing down' is: Excluding alternatives from the set of all potential alternatives and trickling down through the *awareness set*, *initial consideration set*, *evoked set*, *action set* and *interaction set* to reach a *final selection* of only one product, destination or holiday trip (Crompton 1992). This basic idea has recently been used to derive foundations for an agent-based modelling of holiday travel choice processes (Reintinger, Berghammer & Schmude 2016).
- The *Mere Exposure-Model* originally hypothesised that 'mere repeated exposure of the individual to a stimulus object enhances his attitude towards it' (Zajonc 1968). The effect has been repeatedly shown in several hundred experiments and results show that repeated exposure does not necessarily have a positive effect ('enhances attitude'), but also works in the opposite (negative) direction (Bornstein 1989). The effect is well known in advertising communication (Fang, Singh & Ahluwia 2007) and has been described as a 'gateway to the subliminal' (Zajonc 2001).

Although the ELM has been heavily criticised from the beginning and researchers have even warned of its' sole use in academic and practical settings (mostly due to its poor pre-

dictive value, its roots in the communication setting of the 1980s and its inability to produce replicable results outside the original author's influence, cf. Kitchen et al. 2014, p. 2044), the model can certainly be used as *one* conceptual framework for the discussion of sustainability information in the context of tourism.

2.4 Explicit and implicit sustainability information

Regarding the disclosure of sustainability information, Font et al. (2016) have identified dimensions of messages and how they influence the customers' behaviour and attitude towards a product or service. This theoretical lens will be used for the examination of sustainability information in the following. One of these dimensions relates to whether businesses decide to convey their sustainability information 'implicitly' or 'explicitly'. *Explicit* conveyance of sustainability information is often practiced by businesses which incorporate the concept of 'sustainability' into their marketing strategy and brand profile. This can be realised through the usage of environmental seals and ecolabels (Hamele 1996) or the creation of a subpage designated for sustainability information. Reasons for communicating the sustainability performance of a company or product explicitly can be consumer demand for sustainable products and a resulting positive attitude towards the company's brand image, as well as investor demand and competitive pressure amongst businesses (Hamele 1996; Delmas & Burbano 2011). While academic research and practical concern in sustainable tourism circled around the study of ecolabels and their criteria and other explicit information forms for years, it now becomes clearer that although ecolabels can help consumers to identify more sustainable products and might even lead to a more positive attitude towards sustainable travel offers, they have only small effect (if at all) on booking intention and preference building (Eijgelaar et al. 2016). Consequently, eco-certified hotels did not have more or less bookings compared to other hotels without eco-certification (Chong & Verma 2013), although practical experiences from booking platforms (e.g. TripAdvisor) 2010 also show positive effects.

Implicit sustainability communication on the other hand is used as 'a conscious effort to reduce any dissonance that exists between the values of sustainability held by a business and its customers' (Font et al. 2016, p. 2). Denotatively stating sustainability information, or even concealing it, is also known by the term 'greenhushing', which constitutes the deliberate decision of a business to withhold information regarding its sustainability performance. This form of sustainability information can take shape in denotative pieces of texts inserted into larger paragraphs (Hardeman et al. 2016). Font et al. (2016) suggest a number of reasons for a business to communicate their sustainability performance implicitly. For one, they suggest that consumers are generally distrustful of sustainability information, so businesses do not communicate explicit sustainability information as they want to maintain an honest and serious brand image. Second, tour operators could withhold explicit sustainability messages because they do not want to raise concern about the potential negative influences of travelling in general, and therefore choose to implicitly highlight sustainability information on their websites. Third, businesses often have limited persuasiveness due to a lack of technical skills to effectively market their products with explicit sustainability information (Villarino & Font 2015), and thus communicate their sustainability performance implicitly, e.g. through describing personal benefits for the customer (Priskin et al. 2015).

The dimension of implicit and explicit sustainability communication as outlined by Font et al. is useful for the purpose of this study, as it considerably relates to the question of findability of sustainability information on mainstream booking platforms on the Internet. Explicit sus-

tainability communication is more obvious to the online customer, and often involves visible features such as sustainability certificates, ecolabels or awards. Implicit sustainability information on the other hand can be inserted into other pieces of information or text and therefore be less findable for customers on the Internet. As a result, assessing the status quo of available sustainability information on mainstream booking websites is feasible through an examination using the dimension of explicit and implicit.

2.5 Implications for research

Methodologically, the discussion of the frameworks helps to outline some guidelines to be observed during the further research, which is directed to the findability of sustainable information and its effect on attitude and behaviour change. The most important are:

- Frequently, it is not only the information itself which influences a decision situation. Rather, the arrangement of information and the architecture of defaults can be equally important (learning from behavioural economics and *nudging*).
- Attitude formation can help to predict behaviour, but it does not suffice. In spite of a positive attitude toward sustainability, people tend to behave differently. Therefore, we cannot rely on attitude measurements solely (learning from discussion of TRA/TPB).
- People have two main modes to process information (one fast and reliant on cues, one slow and elaborative), and involvement is one of the factors explaining which road is chosen in a given situation (learning from ELM).
- Consumers tend to narrow down their set of alternatives until a decision can be taken (learning from Set Theory).
- Something which is seen more often is remembered and retrieved more intensely, even when perception is not consciously evaluated (learning from the Mere Exposure effect).
- Ecolabels can be an important signal, together with other explicit information bits, but implicit information can change behaviour too (learning from the explicit/implicit section on persuasive communication).

Obviously, the list is not exhaustive, and there are more considerations to be taken into account. These, however, are the aspects we will be able to incorporate into the fieldwork of the project.

3 Demand side studies

3.1 'Nachfrage für Nachhaltigen Tourismus'

Günther et al. (2014) conducted a research project within the framework of the Reiseanalyse 2014 (RA, English: Travel Analysis), which reveals a significant need for further research into sustainability information in holiday booking, and functions as a relevant background for the FINDUS study. The report, concerned with the market demand for sustainable tourism in Germany, was composed of a number of questions within different surveys of the RA 2014, namely the RA face-to-face and the RA online. It is representative for the German-speaking residential population aged 14 years and older within Germany. The report resulted in a number of elementary findings on market demand for sustainable tourism in Germany and raised a number of questions for further research, which also led to the development of the FINDUS study.

3.1.1 Consumers' interpretation and connotation of sustainable tourism

Firstly, Günther et al. (2014) find that almost a third of the German population set importance on an ecologically sustainable, resource-efficient and eco-friendly holiday. Hereby, 11% of the population exhibit a hard potential while 21% exhibit a soft potential for pro-environmental interest. Furthermore, 38% of the residential population regard social compatibility as important when travelling, of which 14% are categorised with a hard, and 24% with a soft potential for concerns regarding the social dimension of sustainability. Within these two groups, imbrication is very high, as 89% of the ecologically interested population also set focus on social compatibility of a holiday trip. Conversely, 74% of the socially concerned individuals put relevance on an ecologically sustainable, resource-efficient and eco-friendly holiday (p. 5).

Concerning tourists' interpretation of the term 'sustainable tourism', it becomes apparent that only about one fifth of the research population report that they have a clear understanding of this concept. Other terms which experience more familiarity on the side of the respondents, are 'ecologically sustainable tourism' (32%), 'climate friendly tourism' (28%) and 'socially compatible tourism' (25%). Overall, the population exhibits a high degree of acceptance towards the above-mentioned terms. This shows that respondents have a positive connotation of the terms, without having a clear understanding of what they mean. Moreover, only 4% of the population report that they have gained experience with 'sustainable tourism', another 9% with 'ecologically sustainable tourism' and 6% have got experience with 'socially compatible tourism'. It can therefore be concluded that only a small proportion of the population has previously experienced sustainable modes of travel and that there is a large potential for an increase (p. 11). Obviously, respondents have reported about trips which they subjectively connote as being 'sustainable', 'ecologically sustainable' or 'socially compatible'; these trips have not been objectively checked for such specific attributes.

In order to understand the attachments and associations with 'sustainability' in holidays, an open question was posed to the respondents. Here, the ecological dimension of sustainability is mentioned by 28% of respondents, another 11% address the social dimension, while the economic dimension of sustainability is widely disregarded (Günther et al. 2014, p. 15). This illustrates the predominant attachment of ecological and natural connotations with the term 'sustainability', and the lack of knowledge about the comprehensive concept of sustainability as suggested in the Agenda 21 (UNCED 1992).

Another topic touched upon in the report about demand for sustainability in tourism is the respondents' allocation of responsibility regarding sustainability in tourism. From the respondents' point of view, the responsibility to organise tourism sustainably is shared by a number of actors. First and foremost, they assign the liability of reducing ecological damage to tourists themselves (65%), and 57% deem the tourism industry responsible for changing their offers. 41% put the state in charge of establishing directives and laws to organise tourism more sustainably. Günther et al. (2014, p. 16) conclude a high potential to increase the demand for sustainable travel products on condition of target-group specific marketing.

3.1.2 Obstacles to travel more sustainably

Further, Günther et al. (2014) investigate obstacles for sustainable tourism within the RA 2014. 61% of the respondents state that they would like to organise a sustainable holiday, but do not manage to do so for different reasons. Here, 49% mention a lack of sustainable offers, 42% would find more clear indications of sustainable offers in terms of ecolabels and certificates helpful, and 43% would consider additional sustainability information for the purpose of organising a sustainable trip. The authors subsequently conclude a number of suggestions for an improvement of this situation: For one, it is considered necessary to establish a wide range of sustainable travel products in order to increase supply. Secondly, it is suggested to improve the availability of sustainability information. Thirdly, it is found necessary to increase the population's knowledge about sustainable tourism. Fourthly, the transparency of expenses and benefits caused by sustainable modes of travelling should be increased (p. 9).

At last, the acceptance and willingness of tourists with regards to a number of courses of action to organise travelling in a more sustainable way is examined. Namely, this concerns the procurement of information about the social situation at a destination prior to the holiday decision, the willingness of tourists to book with a tourism operator concerned with the ecological and social sustainability, their willingness to visit natural holiday destinations, as well as the willingness to use public transport to and at the destination.

Regarding travel preparation and organisation, 14% of the German population would like to gather information about the social situation at a destination prior to their holiday. Around 5% are willing to book their holidays with a tour operator who is dedicated to ecologically or socially sustainable travel offers. Additionally, the investigation regarding the means of transportation found that, depending on the previously used mode of travelling, around 31% to 36% of the population appreciate sustainable modes of travelling. However, Günther et al. (2014, p. 32) previously found that only 5% to 7% of the respondents used public transport to arrive at their destination in 2013, which illustrates a discrepancy between the respondents' appreciation of sustainable means of travelling and their actual behaviour. 7% of the respondents are interested in an ecologically sustainable accommodation for the next holiday. The largest potential, according to Günther et al. (2014, p. 40), lies within those, who are willing to pay more for an accommodation where the operator takes an effort to operate more sustainably (12%).

In addition, the importance of 'sustainability' for the respondents' main vacation in 2013 is inquired, which leads to remarkable results regarding the discrepancy of respondents' willingness for sustainable behaviour and their actual performance. Reasons for this are again seen in the lack of information about the sustainability performance of a tour operator, the findability of suiting holiday offers and additionally the necessary effort of finding sustainable travel offers, which is seen as an obstacle to travelling more sustainably by respondents. The authors conclude that sustainability does play a significant role for the travel decision, however it is merely subordinate to other factors such as price or destination, and therefore becomes an important aspect after a number of potential holidays has already been selected by consumers. As a result, a lack of detailed information regarding the sustainability performance of travel products detains consumers to select a sustainable holiday, even if they would be willing to travel sustainably. Hence, there is a large discrepancy between the respondents' preparedness to choose for sustainable travel offers and their actual behaviour during their main vacation in 2013 (p. 57 ff.).

3.1.3 Conclusions

Lastly, the final conclusions of the report concerning the demand for sustainable travel offers are drawn. The first conclusion relates to obstacles to sustainable travel and potentials to overcome such obstacles. Even though consumers generally have a positive attitude towards ‘sustainability’ and sustainable travel, their main objective when booking a vacation is a ‘nice experience’ during their holiday, while ‘sustainability’ only plays a subordinate role. High prices, a lack of information and low visibility of sustainable travel offers are the main identified obstacles for consumers to book sustainable vacations. Additionally, the authors find that the communication of sustainable travel offers requires special attention by tour operators: In order for consumers to prefer those kinds of offers even at a higher price, they need to comprehend special added value and personal gain from the decision for sustainable travel. Therefore, tour operators would need to convey the benefits of conservation of nature and environment, a clean conscience and increasing social prestige resulting from travelling sustainably, as well as the retention of high quality travel products with a high experiential value (Günther et al. 2014, p. 64 f).

Second, the authors draw conclusions regarding consumers’ knowledge and conception of sustainable tourism and potentials to increase this knowledge. It is found that a rather small percentage of the population has a clear understanding of what ‘sustainable tourism’ is and that the ecological dimension of sustainability is predominantly attached to the concept. Thus, improvements of information communication as well as the raise of public awareness are clearly necessary measures. Hereby, information is required to be well structured, easily processable and reliable in order to be relevant for the final holiday decision.

Third, the question of potential improvements regarding the discretionary competence of consumers is addressed. Again, it is referred to the importance of a solid information basis, which is available and findable through different channels by people with diverse information behaviour. Further, the authors emphasise the need to label sustainable travel offers accordingly. A reliable label or certificate for sustainable travel products simplifies the search for sustainability information about a specific offer, yet again it has to be easily accessible and findable (and of course has to be transparent, true and trustful). This requirement for ecolabels was also found by Eijgelaar et al. (2016), who conducted a study on ‘consumer attitudes and preferences on holiday carbon footprint information in the Netherlands’. It is also suggested to increase transparency by denoting the carbon footprint of a travel offer, so that consumers can easily compare the environmental impact of a number of products (Günther et al. 2014, p. 66).

Fourth, the potentials of providers to improve their marketing strategies are outlined. Aside from the quality of information, three additional aspects are addressed. Namely, the selection of criteria for ‘sustainable’ offers, major aspects of such offers to be addressed in marketing, and necessary partnerships for transparent and credible sustainability information are mentioned (Günther et al. 2014, p. 67).

Out of these findings from the report concerned with the market demand for sustainable tourism in Germany, the organisation of information and communication appeared as a key concept. The need of improvement on the supply side has recurred numerous times within the study, and the necessity of well structured, easily processable and reliable information has been identified. Seeing that there is a high acceptance and positive connotation to the term ‘sustainable tourism’, but only small recognition and experience with it, there is a high potential to improve the consumers’ knowledge and understanding of sustainable tourism.

The investigations concerning obstacles as well as potentials for sustainable travel in the future make the concept of information strategy a subject of discussion, which illustrates the ample need for further research regarding the way in which sustainability information is communicated to consumers and how visible this information is to customers.

3.2 Further demand side studies

There is a plethora of studies which researched the interest of tourists in sustainable travel products, whereat the findings exhibit a wide variance of interest in such forms of travel: Although these studies sometimes lack methodological transparency and not all results are coherent, we can gain *some* insight into the current preferences of holiday travellers.

Miller (2003) finds that there is a new group of 'green consumers' in tourism, who set importance on the sustainability performance of specific products they purchase. This in turn is seen to direct businesses to improve their sustainability performance and increase their communication of sustainability information due to the growing demand for sustainable tourism. The author also concludes a 'selfish altruism' (Miller 2003, p. 35) within such consumers, meaning that they set importance on both the environmental benefits of sustainable tourism products but also on the personal added value resulting from the purchase of a 'green holiday'. While Miller (2003) investigated the existence of green consumerism within tourism, Bergin-Seers and Mair (2009) further examined different types of green tourists and found that there are many green tourists of different 'shades of green' (p. 118), where some are more concerned for the environment than others. Further, they detect that many people are currently in 'midst of a life cycle change with regard to environmental issues' (p. 118), which leads to increasing and intensifying environmental concern in society.

Wehrli et al. (2011b) report the results of an ecotourism survey conducted by the commercial platform TripAdvisor (2010), which finds that 'environmental-friendly tourism is a consideration' for 38% of the tourists worldwide and that 34% are willing to pay more for sustainable hotels. They further address a study from Travelhorizons (2009) which concludes that only 9% of U.S. American consumers are willing to pay more for sustainable products, while only 3% have previously made use of carbon offsetting options. However, they find that 78% of respondents state that they are environmentally conscious. Furthermore, Wehrli et al. (2011b) further report results from a study conducted by Lonely Planet (2007), which finds that 70% of their respondents have already travelled sustainably and over 90% will consider the purchase of sustainable travel products in the future. Additionally, Wehrli et al. (2011b) report a study from Deloitte (2008) which found that 38% of business tourists are interested in the sustainability performance of a hotel and 28% are willing to pay an extra 10% for eco-friendly accommodation, while Rheem (2009), as reported in Wehrli et al. (2011a) found that 44% of U.S. tourists set importance on sustainability aspects and one third of them are willing to pay more.

Wehrli et al. (2011a) found that there is 'a target group of 22% sustainability aware tourists who consider sustainability as important when booking a holiday' (p. 3), and 85% of respondents select a sustainable tourism product over a non-sustainable product within a choice experiment. Further, they find that sustainability ranks second last when directly assessing the decisive factors for holiday travel decision (p. 19), but for 22%, namely the target group which was previously elaborated on, it is among the top three criteria for holiday selection.

Even though these studies result in diverse findings, they share a common result, namely a *large interest in sustainable tourism* and *little demand for sustainable tourism products*.

Weaver (2008) attributes this circumstance to what he calls 'veneer environmentalists', who have a positive attitude towards sustainable tourism but do not take any concrete actions for sustainable behaviour. Juvan & Dolnicar (2013) scrutinise reasons for this apparent attitude-behaviour gap in sustainable tourism consumption, as many consumers engage in sustainable behaviour at home but discontinue such behaviour when on vacation. The authors detect a cognitive dissonance between the desire for a satisfying holiday experience for a reasonable price and the desire to behave sustainably within the respondents. As the apparent attitude-behaviour gap makes the respondents feel uncomfortable, they find a 'wide range of beliefs that were used to cope with cognitive dissonance' (p. 91). This includes the denial of consequences of activities and responsibility, comparison of their behaviour against worse behaviour, denial of control because of financial or time limitations, the belief that tourism is a positive endeavour in itself and promotes sustainability, and the belief that tourists engage in exception handling of vacations in contrast to everyday life.

A touchstone for the above-mentioned attitude-behaviour gap can be seen in the attitude towards eco-friendliness of holiday trips and the use of transport, because it has been shown that air travel is the most eco-adverse form of travel responsible for a large share of greenhouse gas emissions (Gössling et al. 2007). From data of the 2015 Reiseanalyse we can learn that among holiday makers in Germany, those who have a very positive or a very negative attitude (scale points 1 and 5) towards eco-travelling use trains more and airplanes less often.

Table 1: Modal split for holiday travel (5 days and more) in Germany

Year: 2014	All holiday travellers	1 Totally agree	2	3	4	5 Completely disagree
Base: 54.6 mill. holiday travellers	100%	16%	28%	34%	12%	10%
Holiday trips						
… by airplane	44%	41%	43%	46%	47%	40%
… by car	46%	45%	46%	47%	46%	45%
… by train	6%	8%	5%	5%	7%	8%
.. by Bus	9%	10%	9%	8%	6%	10%

Source: Reiseanalyse 2015, n = 5,975 holiday travellers, all holiday trips in 2015, multiple responses, Statement: 'My holiday trip should be as ecologically compatible, … and eco-friendly as possible'

3.3 Implications for research

Previous research, including the studies cited above, leads to the conclusion that

- there is a segment of (holiday) travellers actively searching for sustainability information and consequently choosing the more sustainable option; for this segment, sustainability can be an asset of the trip; this segment seems to be rather small.
- there is a segment of (holiday) travellers who are more or less open for sustainable options, but without consequently choosing the more sustainable option if there is no incentive to do so; this segment is much bigger.

It is this last group in particular which needs to be studied in more detail. For them, 'sustainability is still of low priority during the holiday decision-making process' (Eijgelaar et al. 2016, p. 408), and this is mainly because 'behaving sustainably' is not a motive to take a holiday trip in itself. In holiday travel, other motives prevail on the consumer side (Lohmann, Schmücker & Sonntag 2014).

Quite contrary, it has been shown that holiday travel is frequently considered as an exception to everyday life (allowing not to be so strict with oneself when it comes to consumption decisions) and even 'that people generally *reduce* their level of environmental friendliness during their vacation' (Juvan & Dolnicar 2014, p. 178).

As a consequence, we would need to ask what *incentives* might help to convince this group to choose the more sustainable option. Incentives could be (among others) a lower price, a better experience or some other form of positive influencer.

A higher price (*premium*) is certainly no incentive, and therefore it seems to be only logical that these consumers do not show a willingness-to-pay for a more sustainable option even if their attitude towards sustainability is positive (rather, a price *bonus* could be such an incentive, although this option does not seem to be realistic). This reluctance shows the rather limited willingness to engage in sustainable behaviour (like voluntary carbon offset programmes, Barr et al. 2010; Gössling & Buckley 2016; Eijgelaar et al. 2016) and the elicitation of a number of justifications (or release of cognitive dissonance) on the consumer's side (Juvan et al. 2016). It seems that a holiday traveller with a positive attitude towards sustainability just manages to avoid negative product characteristics without choosing products with positive characteristics (Karlsson & Dolnicar 2016).

4 Status Quo studies

In this section we investigate the status quo of sustainability information on the Internet on mainstream online booking and information websites. This will assist in understanding how much and which information customers are able to detect during their online search for a holiday offer. The following passage will therefore be concerned with the current availability and findability of sustainability information on mainstream holiday booking platforms in Germany.

It is apparent that businesses use their website to communicate their individual brand image, with the objective of influencing customers' attitude and behaviour towards their products and services. Hereby, the communication strategies organisations use to convey their brand image act 'in line with their business goals, which can include increased financial gain for the business or increased societal gain from a change of behaviour' (Font et al. 2016, p. 1). The topic of 'sustainability' has been a prevailing issue in the tourism industry,

and the communication of sustainability information could induce both of the above-mentioned business goals. Therefore, as businesses have to make deliberate decisions about the way they present themselves through their online appearance, it is obvious that they need to take the concept of 'sustainability' into account and decide on how to address this topic in the presentation of their brand image. The following presents an examination of the current findability of sustainability information and 'green' travel products on mainstream booking platforms for the German market. First, some theoretical groundwork will be outlined regarding the dimensions of sustainability information researched in this passage. Second, the visibility of explicit sustainability information in form of labels and dropdown menus on websites will be examined. Subsequently, further investigation into more implicitly conveyed sustainability information will be conducted. These individual steps of the investigation will finally allow for a conclusion regarding the status quo of sustainability information on the Internet.

As opposed to a recent study by Hardeman, Nawijn & Font (2017, study 1), which focuses on 'three Dutch tour operators recognised for their sustainability practices', we chose an approach which is slightly broader (including commercial platforms of various forms and destinations, a total of 48 websites for explicit and 30 offers on five websites for implicit cues) and, more importantly, in the *mainstream segment* of tourism offer. We did not select suppliers who already have a reputation in sustainability, but rather those with the highest market importance in the tourism market.

4.1 Status quo of explicit sustainability information

Explicit sustainability information is presented to online customers in a very visible and accessible manner through ecolabels, environmental awards or subpages dedicated to sustainability aspects. Currently, the number of existing ecolabels on the tourism market is not precisely ascertained due to the large number of different awarding institutions in multiple countries as well as the continuous emergence of novel certificates, however literature suggests a number of 100 to 150 ecolabels in tourism worldwide (Font 2002; Hamele & Núñez 2016; Karlsson & Dolnicar 2015).

The quality of any ecolabel depends on a number of factors, such as the awarding institution and partner organisations, its subject of certification, the amount of countries it is being awarded in, the transparency and verification of certification criteria and the fields of sustainability addressed in the assessment (Hamele & Núñez 2016). The current element of the FINDUS-study however is not primarily concerned with the quality of these labels but examines the general availability of eco-certified travel products on the Internet. The following presents a web-based research regarding the visibility of ecolabels and the presence of designated subpages for sustainability information on selected mainstream booking websites on the German market.

4.1.1 Literature review: The current status of ecolabels on the tourism market

First, we examined the current status of available labels and certificates regarding their functions, current numbers and institutional backgrounds.

Ecolabels and sustainability certificates are a means of ensuring environmentally, socially and economically sustainable performances of products or services around the world. According to the United Nations Office for Project Services (UNOPS, on behalf of the United Nations Environment Programme UNEP), high-standard labels and certificates result in a number of benefits for both businesses and customers: For one, they assist consumers in making environmentally, socially and economically tenable choices without being experts on the matter themselves. Secondly, they foster the market of sustainable products and therefore shape supply and demand. Thirdly, they constitute a valuable marketing opportunity for 'sustainable' products, and lastly, they support innovation by promoting the availability of 'green' products (UNOPS 2009).

Ecolabels and sustainability certificates have been available on the tourism market for over 30 years now (Karlsson & Dolnicar 2016) and today, there is a plethora of sustainability awards being awarded to touristic products globally, nationally, or regionally. These labels and certificates differ in a number of ways, for example the type of awarding institution, the aspect of operations which is being certified as sustainable, the amount of countries they are available in or the duration of validity.

The Global Ecolabelling Network, in collaboration with the International Standardisation Organisation (ISO), classifies labels and certificates concerning their credibility and validity. The most credible type of ecolabels according to this classification is characterised by a voluntary effort from the side of the business, based on multiple sustainability criteria and awarded by a third-party institution, 'that authorises the use of environmental labels on products indicating overall environmental preferability' (Global Ecolabelling Network, n.d.). This classification of ecolabels of high quality standard can be contrasted to environmental self-claims made by businesses for marketing purposes. Since many businesses have identified 'that environmental concerns may be translated into a market advantage' (Global Ecolabelling Network, n.d.), both the number of available certificates as well as concerns about the quality and validity of awarded labels have increased. The hazard of misuse of sustainability certificates for 'greenwashing', which is 'the act of misleading consumers regarding the environmental practices of a company […] or the environmental benefits of a product or service' (Delmas & Burbano, 2011, p. 6), has been recognised by a number of institutions, which have now taken up the task of scrutinising the quality of ecolabels and sustainability certificates. Probably the most widely known examples of frameworks for such quality assurance of 'green' certificates are the Global Sustainable Tourism Criteria (GSTC) and the ISO 14024. However, there are various additional frameworks and monitoring institutions worldwide. Specifically for destinations, the "European Tourism Indicators System for sustainable destination management" (ETIS) is worthwhile mentioning.

As a result of this multiplicity of ecolabels and sustainability certificates of very diverging backgrounds and quality, as well as the growing number of quality assuring frameworks for such certifications, it becomes apparent that consumers and also touristic businesses can become confused or sceptic. Keeping this potential confusion and scepticism of both consumers and businesses in mind, the following presents a web-based research concerned with the visibility and findability of explicit sustainability information on mainstream booking platforms on the Internet.

4.1.2 Methods

In order to examine the current availability and findability of explicit sustainability information on the most common holiday booking platforms, we conducted a web-based research. An initial investigation of 48 booking websites used by German consumers was undertaken (Table 5 in the appendix). The sample of examined websites is composed of six online travel agencies, four booking systems of tour operators, two last minute marketers, four hotel platforms, two flight platforms, two meta search engines, two travel review sites, 16 destination websites of the German Bundesländer (federal states) as well as ten international European destination websites. This selection of websites covers a wide range of types of online booking platforms, while some of the most widely used examples for each type of website were selected for examination. It is, however, not a complete assessment of all possible online information and booking channels available to potential holiday makers in the German market.

For a simplification of the subsequent analysis, some of the websites were clustered into groups (Table 2).

The cluster of 'other commercial intermediaries' was established due to the heterogeneous nature of the examined websites. Nonetheless, the individual platforms in this cluster share some common features, specifically the fact that they collect touristic offers from different suppliers (like tour operators, hotels, airlines, last minute providers etc.) and thus give the consumer transparency and a direct booking opportunity. Therefore, they act as an intermediary between the customer and the supplier and are of highly commercial nature.

Table 2: Number of sampled websites and terminology for further analysis

Websites		Terminology for further analysis
Online travel agencies	6	OTAs
Online booking systems of tour operators	4	Tour Operators (online booking systems)
Last Minute booking platforms	2	Other commercial intermediaries
Hotel booking platforms	4	
Flight booking platforms	2	
Metasearch engines	2	
Travel Review sites	2	
destination sites of the Bundesländer	16	Destination websites of the Bundesländer
International destination websites	10	International destination websites
TOTAL	**48**	

Subsequently, the web-based research was conducted regarding a number of criteria for which four guiding questions were composed. Hereby, the usage of ecolabels on a website and the presence of a subpage as measures of explicit sustainability information were supplemented by additional criteria, in order to cover all the imaginable potentials to incorporate explicit sustainability information on a holiday booking website and therefore establish a feasible measure for the purpose of this web-based research.

We conducted the examination of the sampled websites along the lines of the following four guiding questions:

- Is there a designated subpage for sustainability information and does it include information on specific offers?
- Is the topic 'sustainability' explicitly integrated in the navigation of the website?
- Is there a filter/selector for 'green' products in search masks?
- Are there any ecolabels or environmental seals present on the website?

If at least one of the above applied to the website, it was further assessed, which type of sustainability information or dimension of sustainability the individual messages address, and to which product categories this applies.

4.1.3 Results

Table 3 shows a summary of the results drawn from the web-based research for explicit sustainability information online. It presents the different types of websites examined as well as their scores on the previously established criteria through the initial guiding questions.

Table 3: Analysed websites and their scores on established criteria for explicit sustainability information

Analysed websites	OTAs	Tour Operators	Other commercial intermediaries	Bundesland destinations (DE)	International destinations	Total
Number of websites	6	4	12	16	10	48
1a) Subpage existent	2	4	3	7	2	18
1b) Offers	0	0	0	2	1	3
2) Navigation	1	4	3	13	4	25
3) Filters/selectors	0	1	1	0	0	2
4) Ecolabels	0	3	2	5	3	13
None of the above	4	0	8	3	6	21

The first criterion that was probed for during the investigation was the presence of a subpage for sustainability information on the individual booking websites. Results show that out of the 48 examined booking platforms, 30 (63%) websites do not exhibit a subpage for sustainability information. These are four out of the six examined online travel agencies and nine of the 12 examined commercial intermediaries. Out of the 16 destination websites of the Bundesländer, nine (56%) have not created a subpage for sustainability information. Another eight of the ten international destination websites have disregarded this step. While 12 websites have created a designated subpage for sustainability, another six are rather hidden or hard to find for consumers, amounting to a total of 18 websites with such a designated subpage. They can be categorised as seven destination websites from the German Bundesländer, four online booking systems of tour operators, two online travel agencies, two international destination websites, and three commercial intermediaries. It is noticeable that all of the examined booking websites from tour operators and almost half of the destination websites of the Bundesländer exhibit a subpage for sustainability.

It is important to mention, however, that most of this information is generic in that these pages mostly show information about the claimed sustainability performance of the *supplier*

as an organisation without stating specific aspects of *sustainability in the concrete offers* provided. Two of the three websites which address sustainability information for specific holiday *offers* are Bundesland destination websites, and the third is constituted by an international destination website. These offers mainly concern the mode of travel at the destination, the origins of food offered at hotels, or a specification of the ecolabels used by the website. The remaining 45 of the 48 websites (94%) do not display any designated categories for products taking sustainability into account.

Second, the 48 sampled booking platforms were examined for the integration of 'sustainability' within the navigation of the website. Hereby, 16 out of the 48 sites (33%) involve sustainability into the navigation in a clear, obvious and findable manner, while another six platforms (13%) have integrated the topic in a more or less hidden manner. Another three websites exhibit a link to the sustainability webpage of a related booking platform or travel website such as the parent company. 13 out of the 16 destination websites of the Bundesländer implement 'sustainability' into their navigation (81%), as well as all of the online booking systems of tour operators. Consequently, a total of 23 out of the 48 websites (48%) have not integrated sustainability into their navigation at all. This concerns five of the six examined OTAs (83%), nine commercial intermediaries (75%) and six international destination websites (60%).

Thirdly, the investigation of mainstream booking websites for digital filters or selectors for 'green' products in search masks illustrates the limited usage of such search engine tools. Only two of the 48 booking platforms (4%) incorporated a digital filter for green travel products, while a vast majority of 46 webpages do not offer this type of filter to the consumers. These two websites are one of the online booking systems of tour operators and one commercial intermediary.

The last criterion the sampled booking platforms were examined for is the presence of ecolabels and environmental seals. Here, 13 out of 48 websites (27%) illustrate the usage of such certifications, with a number of 23 different labels. Thus, the 13 websites which made usage of environmental awards employ an average of 2.5 different labels per website. Including recurrences of labels, a total number of 33 references to ecolabels was counted during the investigation overall. Regarding the recurrence of encountered certifications, two of the 23 labels were displayed three times, another five were displayed twice within the sample, and the remaining 16 labels were displayed only once within the sample. It is further interesting to consider the types of booking platforms displaying such labels. Here, five German destination websites of the Bundesländer, three international destination websites and three online booking systems of tour operators feature ecolabels. None of the OTAs and only two of the 12 other commercial intermediaries made use of labels to indicate the sustainability performance of specific touristic offers.

Regarding the type of information which can be retrieved from the investigated websites, 25 booking platforms (52%) exhibit detailed information regarding the concern for sustainability of the corporation. On the 25 websites which address their concern for sustainability, the *ecological* dimension of sustainability is displayed 22 times, while the *social* dimension of sustainability is mentioned eight times. The *economic* dimension of sustainability is touched upon twice on the 25 websites. This shows that the ecological dimension of sustainability performance experiences the most extensive focus of online booking platforms in relation to the social and economic dimensions of sustainability.

4.1.4 Conclusion

Overall, the web-based research regarding the display of explicit sustainability information shows that mainstream booking platforms use the aspect of sustainability only sparsely for the purpose of marketing. Roughly 60% of the examined websites have not created a dedicated subpage for this type of information, while half of the websites do not integrate 'sustainability' into their website navigation at all. Only about 4% of the sampled websites have implemented a digital filter for sustainable travel products into their search mask, and only 8% of them use information for travel offers designated to sustainability.

Further, the overall performance of the different groups of websites on the number of criteria as presented in Table 2 is worth scrutinising. A striking number of four out of the six examined OTAs did not address a single criterion examined in this investigation, and therefore did not exhibit *any* explicit sustainability information in the studied categories at all. Also, the other commercial intermediaries scored low on most of the criteria, as 8 out of the 12 examined platforms (67%) did not display any explicit sustainability information. Only three of the other commercial intermediaries address more than one criterion, namely one review site, one flight platform and one hotel platform. In addition, six out of ten examined international destination websites did not address any of the criteria, while three of them address three criteria and one of them even addresses five criteria. The booking systems of tour operators on the other hand performed well on most of the criteria. Even though they lack filters for sustainable travel products in their search engines and categories designated for sustainable offers, they generally perform very well on the criteria of designated subpages, the implementation of sustainability into their navigation, the display of ecolabels and certificates, and the coverage of sustainability dimensions addressed. The overall performance of German destination websites was disparate. Three websites did not address any of the investigated aspects, and another eleven addresses two to four aspects, and only one state destination website scored on five of the criteria.

These results illustrate a current insignificance of explicit sustainability information on mainstream booking platforms. Even though a number of studies have shown that consumers are interested in sustainability information when booking their holidays (Bergin-Seers & Mair 2009; Juvan & Dolnicar 2013; Miller 2003), the majority of mainstream booking platforms has disregarded this aspect within the communication of their individual brand image.

Furthermore, this web-based research was concerned with explicit sustainability information displayed on booking websites. When analysing the dimensions of sustainability addressed within the given information, businesses seem to set a clear focus on ecological aspects when communicating their brand image. Only few websites address the social dimension of sustainability in terms of charity, while economic sustainability is largely disregarded in the sample. The focus on the ecological dimension also becomes apparent considering the ecolabels and 'green' certificates displayed on the examined websites, as they mostly concern environmental aspects of tourism. About 30% of the sampled sites made use of such labels, whereat only few appeared repeatedly on more than one website. The few repetitions of labels on different websites illustrate the little recognition value of these labels. The fact that 23 websites which were examined used a total of 23 different ecolabels and certifications shows the need for better coordination of ecolabeling schemes in Germany. Overall, the web-based research regarding explicit sustainability information showed a high potential for improvement on mainstream booking platforms.

4.2 Status quo of implicit sustainability information

Implicit sustainability communication results in less visible information for the customers, as it is often inserted into other pieces of information or text and is not denoted with any green labels or certificates (Hardeman et al. 2016). As mentioned above, businesses use their website to induce a certain reaction or behaviour from their customers and persuade them of their brand image using both implicit and explicit keys (Font et al. 2016). The quality of implicit communication of sustainability information relies on various issues, depending on whether or not statements 'are emotional, memorable, lively, able to capture the receiver's attention, influence behaviour or create favourable thoughts, and whether or not they are associated with a brand/product that creates competitor advantage' (Hardeman et al. 2016, p. 485). Hereby, it is notable that 'sustainability messages have limited persuasiveness because businesses lack the technical competence to write more persuasively' (Font et al. 2016, p. 3). Nonetheless, this current investigation of the FINDUS-study is not focused on the quality of implicit sustainability information, but on the mere presence of such implicit statements, which will be examined in the following.

4.2.1 Methods

In order to assess the current status of implicit sustainability information on the Internet as outlined by Font et al. (2016), a content analysis of 30 offers on five mainstream booking websites has been conducted. These websites were selected out of the pool of 48 websites which were examined during the initial investigation for explicit sustainability information on booking platforms in general. These websites are Expedia.de, Jahnreisen.de, Neckermann.de, TUI.de and Opodo.de. Of each website, six offers of packaged trips were randomly selected for analysis. The climatic distinctions of a holiday destination as well as the distance required to travel might have an impact on the decision of a business to include or exclude sustainability information for a specific holiday offer. This is why a selection of differing trips was made for the content analysis, namely two packaged long-haul holidays, two packaged trips within Europe and two packaged trips in Germany. The selected pieces of text included the descriptions of hotels, rooms, catering, and activities on offer as well as general information about the holiday destination, its cuisine, inhabitants, sights and surrounding locations. This selection of the descriptions of packaged trips derived from the websites resulted in a sufficient amount of text to investigate for implicit sustainability information and was subsequently prepared for coding.

The content analysis of the sampled data was conducted through an axial coding process (Boeije 2010), since the key category of 'sustainability information' was already determined by the research theme of available sustainability information on mainstream booking platforms. As the texts were specifically examined for *implicit* cues, it was crucial to maintain scientific impartiality during the axial coding process. This means that the key category of 'sustainability information' was ascribed to a piece of text only when the text expressed an *effort* for sustainability, while mere descriptions of the *constitution* of the touristic offer were neglected.

The types of effort made to denote a piece of text as 'sustainability information' were the procurement of local products, the designation of an area as a national park or cultural heritage site under protection, the usage of sustainable energy sources, sustainable modes of production and consumption, community-based practices and animal welfare. Therefore, the investigation included the three dimensions of sustainability, namely social, ecological

and economic aspects. Further, it is necessary to note that the coding did not involve a test for the quality of sustainability performance within the description of holiday offers, because this investigation was exclusively conducted for the purpose of finding any available sustainability information within the holiday descriptions.

Subsequently to the axial coding process, the selected expressions which were ascribed the code ‘sustainability information’ were reassembled from the original data and organised in a table along the lines of four criteria (see Table 6 in the Appendix):

- Website of origin (Expedia.de, Jahnreisen.de, Neckermann.de, TUI.de, Opodo.de)
- Distance type of the trip (long-haul trip, holidays within Europe, trips within Germany)
- Actor of sustainable performance: tour operator, conservation enterprise, local economy enterprise, tourists/local community
- Item of description (holiday destination or travel product)
- Type of sustainability information (ecological, sociocultural, economic) and additionally whether or not the information constituted a designation as a UNESCO-site, National Park or protected area

4.2.2 Results

The content analysis of 30 tourism offers retrieved from five mainstream booking websites resulted in a list of 34 implicit sustainability messages overall. Regarding the number of sustainability messages, Opodo.de exhibits the most messages with a number of 14 (in six offers analysed), followed by Jahnreisen.de with 10 messages. Expedia shows the third most implicit sustainability cues with a number of 5. Within the descriptions on TUI.de, 4 sustainability messages were found, while Neckermann.de only displays a single one within the analysed texts.

Regarding the distance of the trip, descriptions of German travel products and destinations exhibit 14 sustainability messages, while long-haul trips show a number of 13, and descriptions of holidays within Europe show a total of seven messages.

Moreover, the analysis resulted in an important finding, namely the actors involved in the sustainable performance addressed in the sustainability messages. It is apparent that the information concerned with the designation of an area as a special area of conservation is not initiated by the tour operator himself, but by a larger institution commissioned with the designation of ecological and cultural features such as the UNESCO or national conservation institutions. However, this type of information constitutes the main proportion of sustainability information given in the analysed texts, namely a number of 21 out of the 34 messages. Tour operators are the actors in seven out of the 34 sustainability messages, whereat four out of these seven were retrieved from TUI.de. Another five out of 34 sustainability cues can be allocated to the local economy at the destination, while one more message constitutes an invitation for the tourists themselves to become active in sustainable behaviour.

A striking aspect in the analysis of the results is the fact that only four out of the 34 implicit sustainability messages analysed were attributed to the travel product itself, while the other 30 messages describe the holiday destination as a whole. These four messages concerning the travel product were entirely retrieved from TUI.de, which was therefore the only

mainstream booking platform in this sample to exhibit sustainability information directly on the product description. It is hereby worth mentioning that all of the booking platforms located the regional description of holiday destinations on a subpage, so the inserted implicit sustainability messages are not immediately visible to the consumers. Further, these descriptions were not composed for the individual travel products, but for the holiday region or country in general. This implies that, on the five mainstream booking platforms, the customer does not have a distinct choice for a 'sustainable' travel product caused by this type of message, because he/she of course books a specific travel product (i.e. packaged trip, flight or hotel) and not the destination as a whole.

Further, a noteworthy number of 18 out of the 34 sustainability messages were concerned with the designation of a holiday destination as a UNESCO-site, National Park or protected area. It is disputable whether these messages can be interpreted as 'sustainability information', since many holiday destinations become more lucrative for tour operators due to their status as a special protected area (Amir et al. 2015), because the designation of an area as a special protected area can transform a region into a holiday destination. However, the criteria for the retrieval of sustainability messages from the holiday descriptions was the mention of an *effort* for sustainability, which is exhibited by the information about designated areas of special protection.

4.2.3 Conclusion

The content analysis of holiday descriptions retrieved from five mainstream booking websites shows that the majority of sustainability messages retrieved from the selected descriptions merely named the designation of a destination as an area of conservation, and as such did not offer a possibility to the consumer to deliberately choose a sustainable travel product such as a 'green' hotel or a sustainable mode of travelling. Furthermore, seeing that 30 of the retrieved sustainability messages describe the holiday destination as a whole, it is worth mentioning that all of the examined booking platforms locate these regional descriptions of destinations on a subpage, so the inserted implicit sustainability messages are not immediately visible to consumers.

Another conclusion which can be drawn from the content analysis is the aspect of the designation of destinations as special protected areas. It is disputable whether these messages can be interpreted as 'sustainability information' as such, since many holiday destinations become more lucrative for tour operators due to their status as a protected area (Amir et al. 2015). These messages therefore do not constitute an effort made especially for the performance of tourism activity but describe a general effort for sustainability made by conservation institutions regardless of any tourism activity in the area.

Lastly, it is interesting to note that, even though TUI.de only exhibits a number of four implicit sustainability messages within the analysed holiday descriptions, these messages touched upon sustainability efforts made directly by the tour operators themselves, while messages about efforts made by conservation institutions or local economy enterprises were desisted from. This shows that the booking website of TUI made an effort to convey implicit sustainability information to the customers and increase their options to deliberately choose for sustainable travel products.

Concluding, the investigation of implicit sustainability information given within holiday descriptions of mainstream booking platforms reveals today's limited possibility for consumers

to be informed about the sustainability performance of a specific travel offer and make an intentional choice to travel sustainably if they are on mainstream booking platforms.

4.3 German search terms used in Google

4.3.1 Google search terms concerning sustainable travel products

Even though this study focuses on consumers who do not explicitly look for 'green' or 'sustainable' travel products, it is important to grasp the retrieval strategy of those consumers who do actively look for those types of products. It is necessary to examine the search keywords that consumers in Germany use to find sustainable travel products, in order to prepare the experimental setting for this research study.

With a market share of 89.6% in July 2016 (Di Bari 2016), Google dominates the search engine market and appears as the most beneficial website for the creation of an extensive keyword list. Therefore, we used the German version of Google Search for this analysis.

For the purpose of determining the keywords that consumers apply when searching for sustainable travel products, two keyword investigation tools were used to examine the variety of search terms as well as their frequency of usage (keyword-tools.org and Google's own Keyword Planner). These tools are generally used by businesses for search engine optimisation (SEO) who aim to improve their website's position in the results of search engines and in consequence their visibility on the web. These investigation tools monitor the search volume of keywords and can therefore give an insight into the frequency of usage of specific terms by consumers. Further, they construct lists of similar words which could be used for a specific search process (Dick 2011). For the purpose of this research, keyword investigation tools were used to establish a list of potential search terms for 'sustainable' travel products in order to comprehend the currently most predominant words for these products used by German consumers.

The retrieved data covers a time period of one year, between September 2015 and September 2016. It can be assumed that consumers use search engines for holiday bookings more frequently in summer months compared to winter months. For this reason, the search counts were averaged, in the interest of retrieving the mean value of a keyword's search count per month.

4.3.2 Identifying and grouping relevant search terms

In the first step, the keyword 'nachhaltig reisen' (*travel sustainably*) was entered into the Google Keyword Planner, a tool for search engine optimisation which is part of the Google AdWords planning tool. Keywords in Google are 'phrases that you choose to determine when and where your ad can appear. They're matched to terms that people search for or web content that they view.'

In the interest of becoming more visible for potential customers, businesses placing advertisements on Google can cluster a number of search terms in an ad group, a list of related keywords. This can include different spellings of the same term as well as similar wordings. The search for 'nachhaltig reisen' results in a number of 342 related keywords suggested by the keyword planner, out of which 45 terms concerning the topic of 'sustainable' travel were selected. This selection was conducted by sorting out keywords concerning advertisements for tourism operators, as well as misspelled terms, and general keywords regarding travel products without any reference to sustainability.

As the Google Keyword Planner only indicates the search volume of terms in broad categories, the keywords were subsequently entered into another tool in order to retrieve more precise numbers regarding the frequency of entry. These numbers were cross-checked with the categorical frequencies retrieved from Google's Keyword Planner in order to check the validity of the search volumes found on Google.

The result of this investigation is a list of 45 keywords used by German-speaking consumers searching for 'sustainable' travel products on the Internet. The list is not intended to be exhaustive for two reasons: First, search engines are changing and developing rapidly and extend their vocabulary constantly, which could lead to changing keywords entered by customers due to additional suggestions made by the search engine in the dropdown menu. Second, Google incorporates search terms with spelling mistakes as well as varying forms of spelling into the register of keywords. However, this list of keywords for the search of 'sustainable' travel products clarifies a number of potential terms used by German consumers on the Internet.

In the last step, these 45 dominant keywords were clustered into groups according to their similarity in content. Five groups were created using umbrella terms, namely 'ökologisch' (ecological), 'nachhaltig' (sustainable), 'grün' (green), 'sanft/alternativ' (soft/alternative) and 'bewusst' (conscious). The term fair' was included as a single word. These established clusters of search engine keywords regarding 'sustainable' travel products give an insight into the predominant terminology used by consumers when searching for these types of products on the Internet.

Table 4:Search terms applied in Google, related to 'nachhaltig reisen' (travel sustainably)

Umbrella term	Individual terms contained in the group	search volume per month, Germany, Google
'ökologisch' (ecological)	14	2,230
'nachhaltig' (sustainable)	14	1,840
'sanft/altnerativ' (soft, alternative)	4	1,430
'bewusst' (conscious)	5	150
fair	1	260
'grün' (green)	4	40

4.3.3 Conclusion

In line with the survey results in Günther et al. (2014, p. 12), the ecological dimension of sustainability prevails also in this analysis. Also, in line with the survey results, 'sustainable' and 'soft' tourism have a similar rating close to each other. Although not all aspects are comparable, the picture that 'nature' or 'ecology' are the prevailing connotations when it comes to the perception of sustainable forms of tourism on the consumer's side stabilises. However, the term 'sustainable' also is used frequently.

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6 Appendix

Table 5: Websites for the analysis of explicit sustainability information

Type of website	Nr.	Name	URL
OTA	1	Expedia	www.expedia.de
	2	Opodo	www.opodo.de
	3	Travel Viva	www.travelchannel.de
	4	Comvel	www.weg.de
	5	Unister	www.ab-in-den-urlaub.de
	6	Travelscout 24	www.travelscout24.de
Online booking system of tour operator	7	TUI	www.tui.com
	8	Thomas Cook	www.thomascook.de
	9	Neckermann	https://www.neckermann-reisen.de
	10	Jahn Reisen	www.jahn-reisen.de
Last-minute marketer	11	L'Tur	www.ltur.com
	12	Lastminute.de	www.lastminute.de
Hotelportal	13	HRS	www.hrs.de
	14	Booking.com	www.booking.com
	15	Discavo	www.discavo.de
	16	Trivago	www.trivago.de
Flightportal	17	Unister	www.fluege.de
	18	Überflieger	www.überflieger.de
Meta-Portal	19	Momondo	www.momondo.de
	20	Kayak	www.kayak.de
Travel review site	21	Holiday Check	www.holidaycheck.de
	22	Trip Advisor	www.tripadvisor.de

… continued

… continued

Type of website	Nr.	Name	URL
German Bundesländer	23	Schleswig-Holstein	www.sh-tourismus.de
	24	Hamburg	www.hamburg-tourism.de
	25	Mecklenburg-Vorpommern	www.auf-nach-mv.de
	26	Niedersachsen	www.reiseland-niedersachsen.de
	27	Bremen	www.bremen-tourismus.de
	28	Sachsen-Anhalt	www.sachsen-anhalt-tourismus.de
	29	Sachsen	www.sachsen-tourismus.de
	30	Thüringen	www.thueringen-entdecken.de
	31	Bayern	www.bayern.by
	32	Baden-Württemberg	www.tourismus-bw.de
	33	Brandenburg	www.reiseland-brandenburg.de
	34	Berlin	www.visitsberlin.de
	35	Saarland	www.urlaub.saarland
	36	Nordrhein-Westfahlen	www.nrw-tourismus.de
	37	Hessen	www.hessen-tourismus.de
	38	Rheinland-Pfalz	www.gastlandschaften.de
International destinations	39	Spanien	www.spain.info
	40	Italien	www.italia.it
	41	Türkei	www.goturkeytourism.com
	42	Österreich	www.austria.info
	43	Kroatien	www.croatia.hr
	44	Griechenland	www.visitgreece.gr
	45	Frankreich	www.france.fr
	46	Polen	www.polen.travel/de
	47	Niederlande	www.holland.com
	48	USA	www.visittheusa.de

Table 6: Implicit information: Number of retrieved sustainability messages organised by website, distance of the trip, actor of sustainable performance and type of sustainability information

	Website	Distance type	Actor	Type of sustainability information	Item of description
1	Expedia.de	long-haul trip	tour operator	ecological	destination
2	Expedia.de	long-haul trip	conservation institution	ecological/National Park	destination
3	Expedia.de	within Germany	conservation institution	ecological	destination
4	Expedia.de	within Germany	tour operator	ecological	destination
5	Expedia.de	within Germany	conservation institution	sociocultural/UNESCO	destination
6	Jahn Reisen.de	Europe	conservation institution	sociocultural/UNESCO	destination
7	Jahn Reisen.de	long-haul trip	local economy enterprise	ecological	destination
8	Jahn Reisen.de	long-haul trip	conservation institution	ecological	destination
9	Jahn Reisen.de	long-haul trip	local community/tourists	ecological	destination
10	Jahn Reisen.de	within Germany	conservation institution	ecological/National Park	destination
11	Jahn Reisen.de	within Germany	conservation institution	ecological/UNESCO	destination
12	Jahn Reisen.de	within Germany	conservation institution	ecological/UNESCO	destination
13	Jahn Reisen.de	within Germany	conservation institution	ecological/protected area	destination
14	Jahn Reisen.de	within Germany	conservation institution	ecological/protected area	destination
15	Jahn Reisen.de	within Germany	conservation institution	sociocultural/UNESCO	destination
16	Neckermann.de	within Germany	conservation institution	ecological/protected area	destination
17	Opodo.de	Europe	local economy institution	ecological	destination
18	Opodo.de	Europe	conservation institution	sociocultural/UNESCO	destination
19	Opodo.de	Europe	conservation institution	sociocultural/UNESCO	destination
20	Opodo.de	Europe	conservation institution	sociocultural/UNESCO	destination
21	Opodo.de	long-haul trip	local economy enterprise	sociocultural	destination
22	Opodo.de	long-haul trip	conservation institution	ecological/protected area	destination
23	Opodo.de	long-haul trip	local economy enterprise	sociocultural	destination
24	Opodo.de	long-haul trip	tour operator	ecological	destination
25	Opodo.de	long-haul trip	local economy enterprise	sociocultural	destination
26	Opodo.de	long-haul trip	conservation institution	sociocultural/UNESCO	destination
27	Opodo.de	long-haul trip	conservation institution	ecological	destination
28	Opodo.de	within Germany	conservation institution	ecological/protected area	destination
29	Opodo.de	within Germany	conservation institution	ecological/protected area	destination
30	Opodo.de	within Germany	conservation institution	ecological/protected area	destination
31	TUI.de	Europe	tour operator	ecological	travel product
32	TUI.de	Europe	tour operator	ecological	travel product
33	TUI.de	long-haul trip	tour operator	ecological	travel product
34	TUI.de	within Germany	tour operator	ecological	travel product

Table 7: Implicit information: Retrieved pieces of text; can be allocated by numbers to the information displayed in Table 6

	Piece of text
1	Das 40 Grad warme Wasser aus dem Volcàn Arenal heizt dieses Schwimmbad auf natürliche Weise.'
2	… besucht, den Komodo-Waran im gleichnamigen Nationalpark oder den Menschen des Waldes, den Orang-Utan, in freier Wildbahn beobachtet hat, findet sie, die Einheit in der Vielfalt.'
3	...Ausgedehnte Wald- und Wiesenflächen neben einer unter Schutz stehenden Flusslandschaft entlang der Elbpromenaden…'
4	In romantischen Restaurants werden exquisite Weine angeboten, die im Hügelland rund um Dresden angebaut werden. '
5	So wurde die Lübecker Altstadt als Weltkulturerbe von der Unesco unter besonderen Schutz gestellt. '
6	Von der römischen Eroberung der iberischen Stadt im Jahre 218 vor Christus sind heute noch zahlreiche Spuren zu besichtigen, die inzwischen von der UNESCO zum Weltkulturerbe erklärt wurden. '
7	Kokosfabriken prägen das Landschaftsbild, die alle Teile des Baumes verarbeiten'
8	Das Elefantenwaisenhaus in Pinnawela päppelt die ‘kleinen’ Waisen auf und wildert sie anschließend erfolgreich aus'
9	Die Schildkröten bringen ihre Eier an Land. Von Tierliebhabern werden diese dann zur Schildkrötenfarm gebracht, da sie sonst häufig noch auf dem Markt landen. '
10	Der Bayerische Wald wurde 1970 zum ersten deutschen Nationalpark ernannt. '
11	Grünbadestrand mit Strandkörben und Weltnaturerbe Wattenmeer in ca. 600 m'
12	Der Nationalpark Schleswig-Holsteinisches Wattenmeer umfasst eine Fläche von 4.410 Hektar und ist seit 1990 ein von der UNESCO anerkanntes Biosphärenreservat
13	Im Norden kommt man im idyllischen Naturschutzgebiet Ellenbogen zur Erholung'
14	Das Naturschutzgebiet ist etwa 700 Hektar groß '
15	Ihre massive Befestigungsanlage und die Burg stehen seit 1997 auf der Liste des UNESCO-Weltkulturerbes.'
16	des Naturschutzgebiets Saußbachklamm lassen sich so in der bergigen Landschaft zu allen Jahreszeiten durchführen'
17	Als kulinarische Spezialität Vaxholms gilt Fisch, frisch vor der Haustür gefangen. '
18	Das malerisch auf einer Insel am Mälarsee gelegene Schloss Drottningholm ist seit 1982 Wohnsitz der schwedischen Königsfamilie und der erste Eintrag des Landes auf der Weltkulturerbeliste der UNESCO. '
19	Daher ist es heute auch als ‘Chinesisches Schloss’ (Kina Slott) bekannt und gehört zusammen mit Drottningholm selbst seit 1991 zum UNESCO-Weltkulturerbe.'
20	Die große schwedische Schauspielerin Greta Garbo fand hier 1990 ihre letzte Ruhestädte, vier Jahre bevor die UNESCO den Friedhof zum Weltkulturerbe erklärte.'
21	Eine besonders große Auswahl an traditioneller balinesischer Keramik ist in der Jenggala Gallery zu sehen, darunter auch häufig Ausstellungen einheimischer Künstler.'
22	Naturliebhaber können einen Ausflug zum Meeresschildkröten-Reservat auf der nahegelegenen Insel Serangan unternehmen oder das Informationszentrum für die Mangrovenwälder an der Küste südlich von Sanur besuchen'
23	...einige von Dorfbewohnern aus Benoa betriebene Warungs - kleine, typisch indonesische, Freiluft-Restaurants.'
24	Wunderbar sind auch heute noch die Strände und die biologische Vielfalt in Unawatuna, die für einen lebhaften Ökotourismus sorgen. '
25	Seit 1988 werden in der Einrichtung junge Srilankesen für den Einsatz in der internationalen Schifffahrt ausgebildet, ganz gleich ob sie Offizier, Matrose oder lieber Schiffskoch werden wollen'
26	Sie stehen gemeinsam mit kolonialzeitlichen Bauten in der Altstadt, wie der Groote Kerk, dem New Oriental Hotel oder dem Queen's House, auf der Weltkulturerbeliste der UNESCO. '
27	In Pinnawela befindet sich das weltweit einzige Waisenhaus für Elefanten, eine der beliebtesten Attraktionen Sri Lankas'

28	Der Tierpark Hellabrunn in München liegt idyllisch im Landschaftsschutzgebiet der Isarauen. '
29	Das Naturschutzgebiet Büsenbachtal ist mit seinen ausgedehnten Heideflächen und Wacholderbeständen eines der beliebtesten Ausflugsziele der Nordheide.'
30	Am Rande des Naturschutzgebiets Lündeburger Heide leben so seltene und scheue Tierarten wie Schneeleoparden...'
31	Von Mitte Mai bis Mitte September geht der Hotelmanager persönlich mit Ihren Kindern in den hoteleigenen Kindergemüsegarten. Dort wird 2 x die Woche gemeinsam gepflanzt, gegossen und geerntet. Das Hotel wurde in einem alten Olivenhain errichtet, dessen 300 Bäume noch heute für frische Oliven und Öl im Hotel sorgen.'
32	'Buffetrestaurant': Küche: regional, glutenfreie Gerichte: Reservierung notwendig, saisonale Gerichte, vegetarische Gerichte, '
33	Restaurant 'Chom Dao Restaurant': Küche: asiatisch, international, thailändisch, Biolebensmittel'
34	Küche: französisch, regional, […] saisonale Gerichte, vegetarische Gerichte.'

A sketch of the ELM

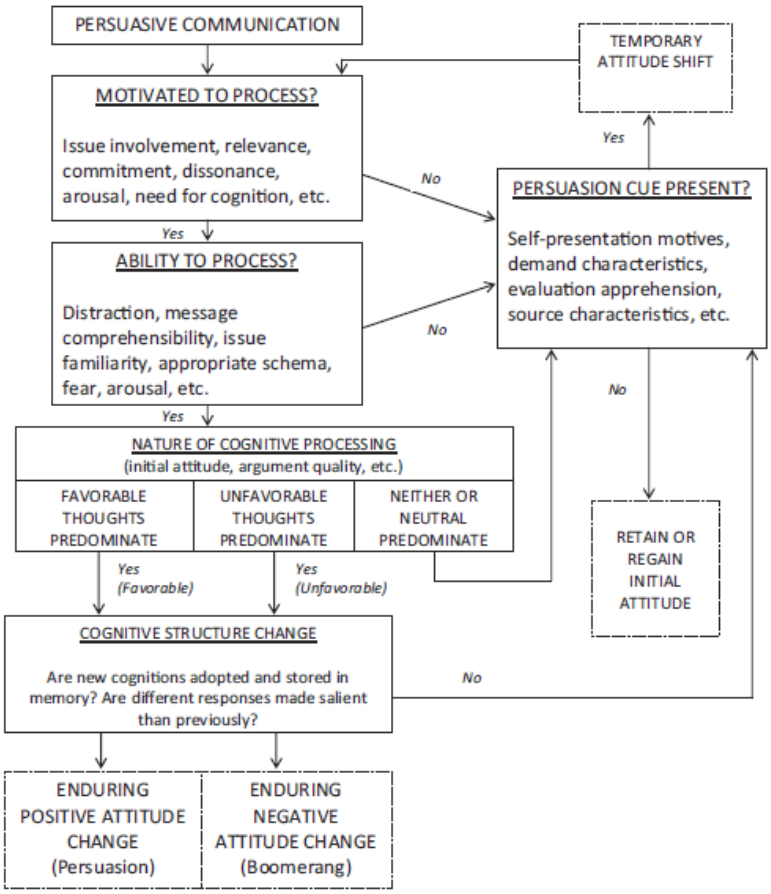

Figure 1: The Elaboration-Likelihood Model (ELM),
Original source: Petty & Cacioppo 1981, taken from Kitchen et al. 2014

Working Paper FINDUS 2: IDM/IDW

This working paper has been released online as: Schmücker, D., Kuhn, F., & Günther, W. (2017). Acquiring sustainability information in holiday travel – Results from IDM and IDW experiments (FINDUS 2) (NIT Working Papers No. 1–2017). Kiel. http://doi.org/10.13140/RG.2.2.34246.47682

1 Introduction

This second paper examines the information acquisition process in holiday travel and, more specifically, the role played by sustainability information in this process. The methodology applied in this study derives from the field of process tracing, specifically using Information Display Matrix (IDM) and an adaptation of this technique to the online world, which is termed Information Display Web boards (IDW).

2 Information acquisition and process tracing

Information acquisition and processing is usually seen as a prerequisite to taking an informed decision about any product or service, and therefore also for choosing a holiday trip or individual services within tourism. Although decision situations exist where information acquisition is only rudimentary, e.g. in habitual decision making, extensive decision making prevails in high involvement situations (Solomon, 2015, Chapter 8.1).

When applying process tracing methods, it must, however, be clearly distinguished between information acquisition and information processing (Pikkemaat, 2002; Schmücker, 2007). Process tracing methods are well suited for covering the information acquisition part of the

process. They cannot, however, be used to analyse the information processing part, which is usually performed internally. Then, again, the outcome of the information processing (i.e. the decision) is accessible to the researcher without much effort.

2.1 Process tracing methods

Process Tracing Methods are methods which allow the researcher to track the information acquisition process (Payne, 1994; Payne, Bettman, & Johnson, 1993; Russo, 1978). Generally, process tracing methods can be divided into two large groups (Langen, 2013):

- Biotic forms, simply registering traces of information acquisition behaviour without the "respondents" even noticing that their behaviour is being observed. Typical examples would be search word, search path and customer journey tracing methods in online media, but also observational studies at the point of sales fall into this group.
- Non-biotic, task-driven forms, asking respondents to accomplish a directed or non-directed task in a more or less artificial environment such as a laboratory.

These latter forms may suffer from a lack of external validity but can show a good performance in terms of internal validity. Within this group, the most important methods are Information Display Matrix (IDM), verbal protocol (or think-aloud protocols), eye-movement tracking (or similar methods like spotlight viewers) and other methods like 'phased narrowing' (Levin & Jasper, 1995) or 'chronometric analyses' (Russo, 1978).

Among these, each method has specific advantages and disadvantages which have been discussed extensively in the literature (Aschemann-Witzel & Hamm, 2011; Langen, 2013; Langen, Klink, & Hartmann, 2013; Zander & Hamm, 2012). Table 8 shows our assessment of the most common process tracing methods, including the IDW presented in chapter 2.3, along the lines of internal validity (i.e. the ability of the method to be used in an experimentally controlled format), external validity (i.e. the ability of the method to relate to the real world), reliability (i.e. the precision and reproducibility of measurements coming from that method) and reactivity (i.e. the feedback effect of the measurement on the behaviour of the subject being observed).

Table 8: Validity, reliability and reactivity of some process tracing methods

	Internal validity – ability to exercise experimental control	External validity – relating to the real world	Reliability – precision and reproducibility of measurements	Reactivity – observation altering the observed behaviour
IDM Information Display Matrix	High	Low	High	High
IDW Information Display Webboard	Rather high	Medium	High	High
Eye-Movement Tracking	Medium	Medium	High	Medium – high
Think aloud protocols	Rather low	Rather low	Low	Very high
Web analytics	Low	Medium – rather high	High	Low

Basically, eye-movement tracking records all visual information acquisition, regardless whether the information acquired has been actively and attentively viewed and internally processed or not. Think aloud protocols, on the other hand, only make those information bits available to the researcher which have been actively and attentively viewed and internally processed. Otherwise, no verbalization could take place. However, as Wilson (1994) points out, “a great deal of information processing occurs outside of awareness”, limiting the value of think aloud protocols. Furthermore, the process of verbal protocols puts an additional mental burden on the respondent, possibly leading to reactivity.

IDM methods record only active and attentive information acquisition, regardless whether the information has been internally processed or not. It can be tried, however, to derive a measure for internal processing from the outcome of the individual experiments. This can be done through the usage of combined methods. Suggestions here are retrospective verbal protocols or additional questioning of respondents considering their knowledge about the product after they have acquired the information they consider necessary for forming a decision (Aschemann-Witzel & Hamm, 2011).

The methods presented above have in common that respondents are asked to accomplish a specific task formulated in an instruction. These tasks can be either directive or non-directive, i.e. directed toward a specific goal or not. Examples for a non-directive format would be to instruct respondents to “simply look around and make your choice” or “choose the alternative you like best”. Directive forms could instruct respondents to “look specifically for sustainability information” or “choose the most sustainable alternative”.

In that respondents are being asked to take a decision for one alternative at the end of the experiment, IDM are similar to Discrete Choice Experiments (DCE). However, DCE is usu-

ally used to collect data for a conjoint analysis within the framework of studying stated preferences through contingent valuation (Carson & Louviere, 2011). In a DCE, through systematic variation of attributes within choice sets, the marginal utility of single attributes can be inferred. Therefore, in a DCE, the resulting decision is the constituting factor and therefore of utmost importance. In process tracing methods like IDM, however, the decision is not in the focus of the study, but rather an instrument to improve validity, because the respondent has a "real" goal, at least within the laboratory setting. Further, the decision is useful to define an end of the experiment, namely one information acquisition process ends when a decision is taken. The final decision also useful to give additional information for data analysis, scrutinising if information acquisition processes differ depending on the alternative chosen.

2.2 IDM Information Display Matrix

An Information Display Matrix (IDM) typically is a *matrix* holding a number of alternatives in columns and a number of attributes in rows (variants with transposed matrices exist, but are rarely used). Respondents are asked to decide upon one alternative and retrieve as much information as they require from the matrix in order to come to a decision. Here, experimental settings allowing only a fixed number of attribute retrievals or an implementation of time constraint exist. The actual information about a combination of alternative and attribute is hidden in a cell and respondents have to actively reveal the information. This act of revealing the information is tracked by the researcher, either manually or in a computer programme. An information acquisition process ends as soon as the respondent has decided upon one alternative.

One of the first known applications of IDM was in Social Psychology (Wilkins, 1967). In consumer research, the works of Jacob Jacoby (Jacoby, 1974; Jacoby, Chestnut, Weigl, & Fisher, 1976), James R. Bettman (Bettman, 1979; Bettman & Jacoby, 1976) and John W. Payne and Eric J. Johnson (Payne et al., 1993) were probably the most influential.

After data collection, a large number of statistics can be derived from the retrieval protocols:

- Per-attribute: share of retrievals, time of the first retrieval, position compared to other attributes, frequency of retrieval;
- Submatrix size and time-to-decision;
- Sequences: two- and three-step transitions, strategy indices;
- Selection: Contribution of an attribute to selection probability (although not as mathematically exact as in a discrete choice experiment because attributes in an IDM are typically not organised in levels).

IDM have been criticised for their lack of external validity (Aschemann-Witzel & Hamm, 2011), a criticism which is, however, true for most experiments in a laboratory environment. The IDM, on the other hand, has shown a "reasonable amount of construct validity" (Lehmann & Moore, 1980, p. 450) and also its ability to reduce effects of social desirability bias (Langen et al., 2013), social desirability can be an issue when studying decision processes concerning sustainability issues, because it is likely that respondents value the more sustainable option as socially more desirable compared to other options (Shaw, McMaster, & Newholm, 2016).

Typically, IDM stimuli are arranged in a matrix form, although other formats exist. Among these are booklets (Bettman & Kakkar, 1977), calendar-style paper blocks (Raffée, Jacoby, Hefner, Schöler, & Grabicke, 1979), folders with separator sheets (Marten, 1992) or software with pulldown menus (Huneke, Cole, & Levin, 2004). Within the matrix format, already used information fields can be marked (or even blocked) or highlighted to allow for a better orientation by respondents, specifically in larger matrices (Zander & Hamm, 2012).

2.3 IDW Information Display Webboard

One of the main drawbacks of IDM is their artificial, one could even say "hyper-efficient" presentation of stimuli in a tabular format. Usually, consumers do not encounter information tidily arranged in tables, but rather in some other, more or less structured form. A second drawback is that, frequently, the space to display the information is rather limited and that pictures cannot be shown at all or only in reduced size, quality and quantity.

Aschemann-Witzel & Hamm (2011) point out that "it is particularly noticeable in this regard that the widespread use of the Internet has altered consumers' information acquisition behaviour (...). Interestingly, the information presentation in the IDM is comparable to the manner in which information is presented on the Internet (...)". However, as can easily be verified on the Internet, their claim is not always appropriate. In fact, most online shops seem to be working in such a way that consumers need to go through *two or more steps* to access information about a given product. Typically, products are arranged in categories or can be found through a free text search. The result page then presents some *key information* on a list of products. In order to get detailed information, the consumer clicks on one product and a product page opens, presenting information in a *continuous rather than tabular* format. This procedure is standard for all holiday travel and hotel booking websites we examined (and probably also for most other product categories).

Therefore, we modified the IDM setting in such a way that the general aim, namely to reveal the information acquisition process, is maintained, while the format of stimulus presentation becomes more realistic, thus improving external validity. At the same time, we want to keep the functionality to track the process in the background and give the respondent the possibility to choose one of the presented alternatives.

We suggest making use of the fact that web servers produce a log file recording each access from a client computer on file basis. Basically, every file access (successful or not, i.e. regardless whether a file was actually delivered over the network or not) is recorded in the log file. The log files usually record, among many other types of information, a timestamp (hh: mm: ss) and the name and path of the file requested.

When the pathnames and filenames are designed in such a way that they contain a reference to a specific IDM set, product alternative and accessed attribute, the log file can record what information has been retrieved at what point of time. The sequence of retrievals then allows analysing the same statistics as pointed out in the previous section. Researchers, however, should keep a parallel manual protocol recording the start and end times of sets to make sure that respondents and sets can be correctly identified. Technically, researchers should take care that no *caching* can occur. Otherwise, log files will not be able to record the full information process.

To better adapt to the real world, we suggest using a two-step procedure, starting with a "result page" presenting key information on a number of alternatives and giving the possibility to click on one alternative to retrieve more detailed information.

Because this format relies heavily on standard functionality from the worldwide web, we call it *Information Display Webboard* (IDW), to distinguish it from the standard IDM and in reference to the early "boards" used in this field (Arch, Bettman, & Kakkar, 1978).

Obviously, there are a number of disadvantages in IDWs compared to the standard IDM:

- Limited possibilities to distinguish information retrieval strategies; many of the indices developed for IDM analysis cannot be used in an IDW setting because the two-step arrangement will prevent most respondents to follow such strategies as *elimination-by-aspects* or *pairwise comparison*.
- A very detailed analysis of small information bits becomes impossible; that is specifically true for the key information presented on the *result* page and also on the *details* pages, depending on how much information is stored in one page.
- Data cleansing and tidying need manual effort and care; although automatic log and clickstream analysers (e.g. Piwik, Analog, Webalizer) are readily available, they will not provide the depth of analysis required for our kind of study.

On the other hand, there are some advantages:

- Amount and quality of textual and pictorial information are designed closer to real world websites.
- Two-step procedure ("results" page and "details" page) is closer to real world websites.
- Breaking the matrix format makes stimulus presentation less super-efficient and thus closer to real world problems.
- Clicking in a web browser is probably more natural for most respondents today compared to the standard matrix.
- More flexible stimulus presentation (e.g. scrolling pages)
- Easily expandable to larger sets of alternatives, attributes or even more than two steps
- Implemented with standard open-source software broadly available.

3 Hypotheses, study design and data collection

3.1 Study design

3.1.1 Setup

We used a within-subjects experimental design with 80 respondents in two splits ("domestic holidaymakers" and "air-travellers"). We split the sample into these two groups because we assumed that the main means of transport (ground transport vs. air transport) would have an influence on the information acquisition in regard to sustainability, because of its significance for the carbon emission of the whole trip.

As a destination for domestic or national tourism, we used the German Baltic coast because it is one of the preferred destinations for holidays in Germany (about 23% of all holi-

day trips within Germany go to the Baltic coast). For air travel, we looked for a destination that is falling into the very popular segment of sun and beach tourism (45% of all holiday trips fall into this category), and at the same time is only accessible by air. Thus, we chose the Canary Islands as an example reaching a certain importance in the market (about 6% of all international holiday trips from Germany go to the Canaries).

Each respondent went through five experimental settings (sets). The sequence of sets was randomly changed between respondents. The five sets reflect the five independent variables discussed in the section about hypotheses. Because each independent variable has two levels, we were able to construct the sets in order to obtain two identical sets, except for the two levels of the independent variable. Table 9 shows that this setup gives us the opportunity to compare two sets at a time with one independent variable changing its characteristic (e.g. to assess the two levels of the "attributes" variable, we compare the results of sets idm1 and idm2). The five sets exist in two different formats, one for each split (German Baltic coast and Tenerife), which can be seen as a fifth independent variable.

Table 9: Setup of the experimental designs (sets)

Set	Split	Method	Attributes	Sustainability information	sustainability key/title labels
1 (idm1)	both	IDM	**few**	explicit	no
2 (idm2)	both	**IDM**	**many**	explicit	no
3 (idw1)	both	**IDW**	many	**explicit**	no
4 (idw2)	both	IDW	many	**implicit**	**no**
5 (idw3)	both	IDW	many	implicit	**yes**

3.1.2 Attributes and alternatives

In order to construct realistic hotel descriptions, we analysed a number of real online booking websites in the German market, among them expedia.de, hrs.de, tripadvisor.de and booking.com as the most popular examples for hotel booking engines, and tui.com, jahnreisen.de, neckermann-reisen.de, dertour.de and ameropa.de as examples for the most popular website of tour operators in the German market. The information categories available on these websites were analysed, both for the product selection pages and for the hotel description pages.

We found that on real world websites, the following information is usually being displayed on the product selection pages: Hotel name, hotel picture, stars, short rating and recommendation, "from" price, and sometimes a value label (e.g. special offer or special quality) and a sustainability label, although rarely (Figure 2, Figure 3).

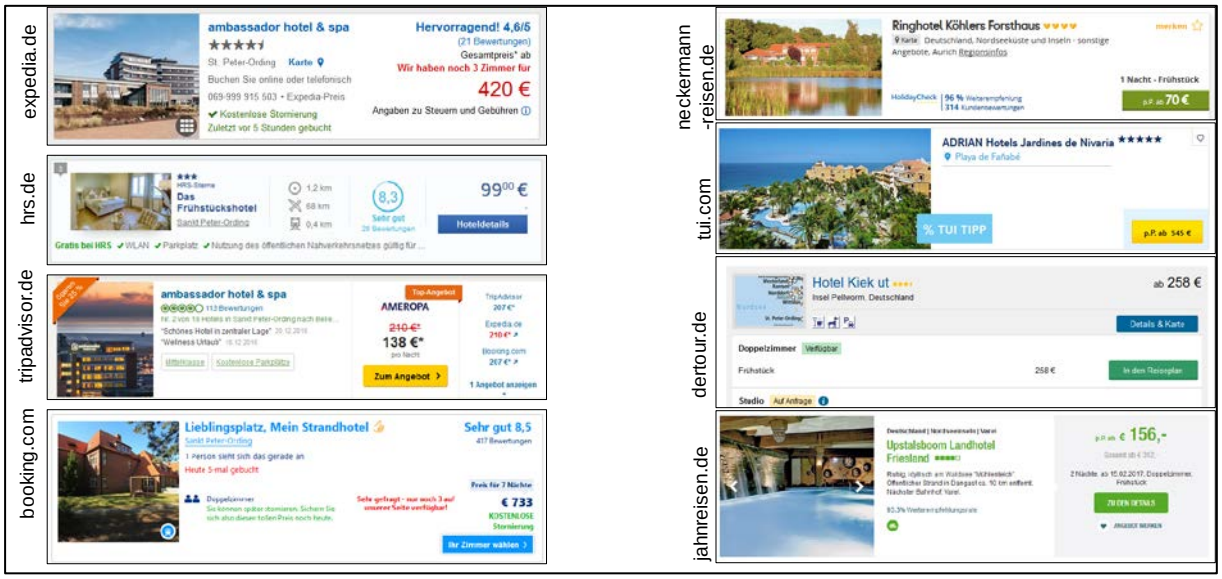

Figure 2: Typical examples from German product selection pages

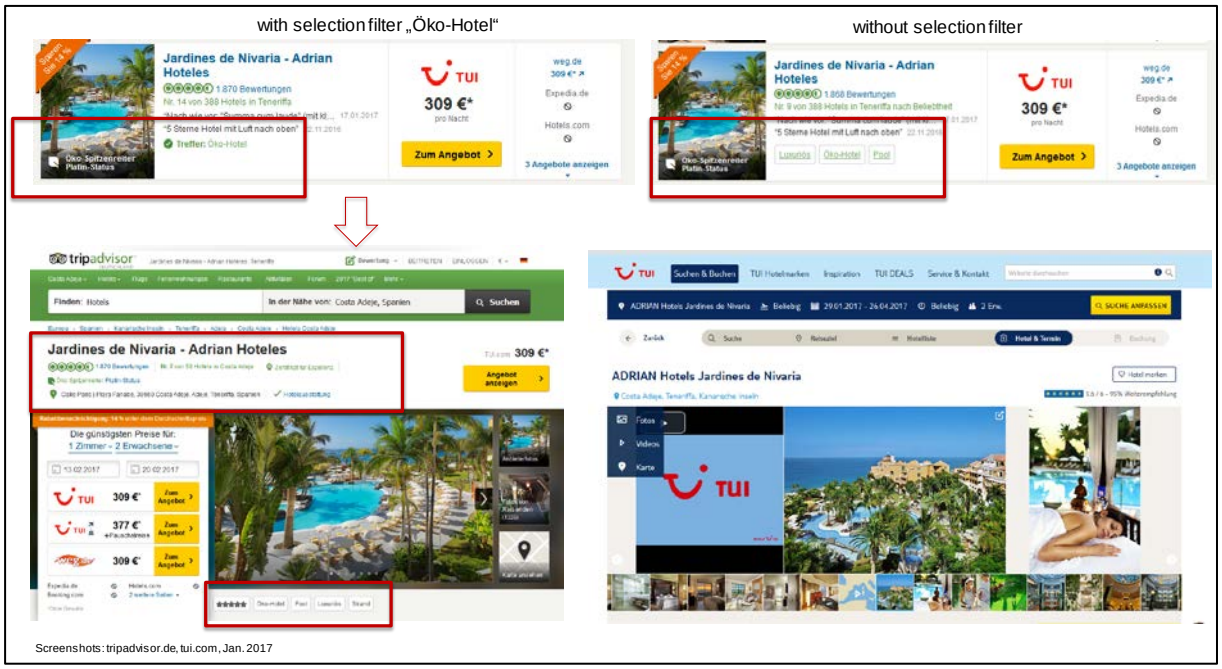

Figure 3: Product selection pages and detail pages on tripadvsor.de (left) and tui.com (lower right)

While in Discrete Choice Experiments (DCE), the number of attributes is rarely higher than 12 (Lancsar & Louviere, 2008) and is recommended to evolve between 6 and 10 (Green & Srinivasan, 1990) we have chosen to present up to 17 attributes in the IDM/IDW. This number of attributes derived from a previous analysis of travel catalogues and online booking websites as mentioned above. As opposed to DCE, the primary purpose of IDM/IDW is not to derive part utilities from the choice taken by the respondent, but rather to track the information acquisition process itself. Secondly, real world online booking platforms confront the customer with just as many attributes, but in a less efficient form of presentation.

It has been shown in previous IDM studies that individualised matrices can have an effect on the intensity of information acquisition within an IDM experiment (Langen et al., 2013). Individualised matrixes show only those attributes which have been rated as important by

the respondent before the experiment. Although individualised matrices have been proposed three decades ago (Jacoby, Chestnut, & Fisher, 1978), the format does not seem to have found widespread use in research. One reason might be that comparison of indicators between individuals becomes more difficult when the frames differ. A second reason might be, that "importance of attributes" can be seen as the output of the IDM study rather than input. Therefore, we did not use individualised matrices in our study. However, we presented different matrices to different groups of respondents and selected respondents in such a way that the object in question (a holiday hotel in either Northern Germany or the Canary Islands) was of personal relevance to them.

As for the environmental and sustainability information, which is key to this study, we used explicit and implicit sustainability information (Font, Elgammal, & Lamond, 2016; Schmücker, Kuhn, & Weiß, 2016). When sustainability information was explicit, an attribute with that name was present. When sustainability information was implicit, the information was described under the label termed "Highlights".

Table 10: Type of sustainability information under the five conditions

Condition (set)	1 (idm1)	2 (idm2)	3 (idw1)	4 (idw2)	5 (idw3)
Type of sustainability information	Labels in category "E&S"	Labels in category "E&S"	Labels in category "E&S"	Category "Highlights" (see below)	Labels on selection page+ explanation in category "Highlights" (see below)
EU + CGH	Seeblick, Mirador	Seegang, Isora	Hotel 1 Kleine Perle, Gran Rocador	-	Hotel 1 Am Fjord, Playa Park
EU	Ambassador, Duque	Lagune, Tacande	Hotel 2 Windrose, Pabisa Orlando	-	Hotel 2 Seerosenteich, Maristany
CGH	Ostseeperle, Nivaria	Meeresr. Beallsierra,	Hotel 4 Excelsior, Pabisa Bali	-	Hotel 4 Strandmuschel Aquasol
None	Steuerbord, Reveron	Sandstrand, del Conde	Hotel 3 Hans. Hof, Malpais	-	Hotel 3 Ankerplatz, Canymamel

EU = EU Ecolabel, CGH = Certified Green Hotel or Dehoga Umweltcheck

For the implicit information, we chose realistic examples based on given sustainability information on mainstream online booking websites (Schmücker, Kuhn & Weiß, 2016). In set 3 (*idw1*), the highlights described special aspects of the hotel in a form that can be found on tour operator websites, but with no relation to sustainability. The tours in set 4 (*idw2*) were

constructed following the idea to combine an experience with an impact on sustainability performance. The tours thus always combined some standard action like biking, hiking, or diving with a sustainable asset (one of the dimensions ecology and conservation or local economy). The tours were marked “bookable only in combination with the hotel booking” or “bookable with the tour operators agent” because it was argued that tour operators will usually not promote tours that can be booked in the hotel, thus bypassing the tour operator. The implicit information in set 5 (*idw3*) was an explanation for the labels shown on the selection page.

Table 11: Implicit information in the category “highlight”

	Set 3 (idw 1)	Set 4 (idw 2)	Set 5 (idw 3)
Hotel 1	[no implicit information]	Schwanenhof: Book a bike tour and support a nature protection organisation Gran Vista Spa: Book a fishing tour with local fishermen and support local economy	Am Fjord. 5-star solar energy concept Playa Park: reasons for certification in ten detailed points
Hotel 2	[no implicit information]	Nordwind: Seed rare plants during a Nordic Walking tour Don Camilo: Plant a tree in the Anaga mountains during a guided tour	Seerosenteich: 100% renewable energy, water from own well, separate waste Maristany: Explanation of reduction of environmental impact and use of public transport
Hotel 3	[no implicit information]	Meeresrauschen: No highlights Reina Paguera: No highlights	Strandmuschel: No highlights Aquasol: No highlights
Hotel 4	[no implicit information]	Lotsenhaus: Use public transport and get a discount or piece of cheese San Fernando: Go/Learn diving and collect sea urchins together with a nature protection organisation	Ankerplatz: Upcycling (refurbish used products) Canymamel: 5-star solar energy concept

For the IDW, the respondents started the experiment on an index page displaying the instruction. The next page was the product selection page. On this page, the four alternatives were shown with a varying number of information bits (see Table 12). Clicking on the picture or the hotel name displayed a hotel start page. This start page displayed the available attributes but no further information. Further information could be retrieved by clicking on the related category (attribute).

As for the “key” or “title” label, we used a combination of standard information and sustainability labels on the product selection page (under condition 5, idw3). In the comparable condition 4 (and in all other conditions), no such title label was present.

In order to select an alternative, the respondents had to go back to the selection page and click on the item „book“. Then, a booking confirmation page was displayed and the experiment under that condition ended.

Table 12: Information presented on the product selection pages

	Set 3 (idw1)	Set 4 (idw2)	Set 5 (idw3)
Hotel name	Yes	Yes	Yes
Hotel picture	Yes	Yes	Yes
Stars	Yes	Yes	Yes
Short rating, recommendation	Yes	Yes	Yes
Price	Yes	Yes	Yes
Value label (special offer, wellness)	No	Yes	Yes
Eco-label	No	No	Yes

In addition to the experimental designs, respondents were asked to answer a short pre-experimental survey and an even shorter post-experimental questionnaire.

In these surveys, the following main concepts were inquired:

- Involvement with holiday travel, using a tweaked version of Kapferer & Laurent's (1986) Consumer Involvement Profile CIP (pre-experimental);
- Attitudes toward different aspects of holiday travel, among them sustainability, price and organisation (pre-experimental). The same question is asked in the annual Reiseanalyse (Schmücker, Grimm, & Beer, 2016);
- Stated importance of the attributes used in the experiments (post-experimental);
- Relevance of sustainability for the last holiday trip (post-experimental);
- Involvement with sustainable products, again using CIP (post-experimental).

Questions focusing on sustainability issues were asked after the experiments in order to avoid priming of the respondents. Some additional demographic and factual questions were asked, among them age, sex, employment status and experience with/readiness to visit selected destination types (for quota checking) as well as the number of holiday trips taken in the last three years.

3.1.3 Control mechanisms

We put a number of control mechanisms in place. They contribute to improving external validity and, as facets of internal validity, showing the experimental effect in the accessible way possible and control or minimise error factors.

Mechanisms intended to improve external valdity (relation of the experiment to the real world) include:

- Use of attributes which can be found in real online booking systems;
- Use of texts and pictures from real online booking systems and adapt to the experimental setting where necessary;
- Instructing respondents that a preselection has been made so that the small number of given alternatives becomes less artificial;
- Use of quota samples to make sure that the kind of product is relevant for respondents; in our case, we required that respondents actually made a holiday travel to the Canary or Balearic Islands/within Germany within the last three years and do not rule out these destinations for the next three years.

Mechanisms intended to improve internal validity (maximise experimental effect, control or minimise error variance) include:

- Asking respondents for the reasons of their choice after each IDM/IDW set, thus reducing the risk of only peripheral attention to the choice task;
- Randomising sequence of IDM/IDW sets between respondents;
- In IDM, randomising sequence of attributes randomised between respondents;
- In IDW, changing key information attributes (names, pictures, ratings, highlights) between sets to rule out sequence and habituation effects;
- Giving respondents the opportunity to test both IDM and IDW with examples unrelated to tourism, thus reducing the risk of inadvertently clicking on the wrong fields;
- Recording all experimental activities additionally through screencasting for backup, thus reducing the risk of data loss;
- Keeping all outer conditions (room, lighting, technical equipment, instructor, incentives etc.) stable between respondents

The max-con-min principle behind this has been developed by Kerlinger and is aimed towards “maximisation of experimental variance”, “control of extraneous variables” and “minimization of error variance” (Kerlinger, 1973, p. 311).

3.2 Hypotheses

Following the more conceptual discussion in the first working paper (Schmücker, Kuhn, et al., 2016), the following hypotheses were elaborated in order to be tested empirically with the process tracing methods IDM and IDW:

- H1: If sustainability information is presented within a large information set, it will be retrieved less often compared to a situation where sustainability information is presented within a small information set.
- H2: If sustainability information is presented in an implicit way, it will be used more often than when presented in an explicit way.
- H3: If a title label about sustainability is present, information about the alternative is used more often than for alternatives without a sustainability title label.
- H4: Respondents with a positive attitude towards sustainability will retrieve sustainability information more intensively than those respondents with a more neutral or negative attitude.
- H5: The group of 'air-travellers' will retrieve sustainability information less often than the group of 'domestic holidaymakers'.

The discussions in Chapter 5 will deal with one hypothesis at a time.

3.3 Data collection and data analysis

3.3.1 Data collection

Data were collected in the months of February and March 2017 in Hamburg. 80 respondents were recruited by a professional recruitment service and were invited to a centrally located studio. Each respondent received a monetary incentive of EUR 30.

The whole session included a welcoming procedure, pre-experimental survey, seven experimental sets (two test sets to get habituated to the tasks and five sets concerning our actual experiment), as well as a post-experimental survey. All questionnaires and tasks were constructed in a self-completion format; however, a researcher was always present to guide respondents through the procedure. Sessions were planned to take 50-60 minutes per respondent. The setup was pre-tested prior to the actual data collection phase. As a result of the pre-tests, wordings in the CIPs were adapted.

We used two splits. In one split (“domestic holidaymakers”, n=40), respondents had to have made holiday travel experience within Germany in the last three years and had to be interested in a holiday travel within Germany in the next three years. For the second split (“air-travellers”), requirements were for the Canary or Balearic Islands instead of Germany. Both splits had to have a mixture of sex, age and employment status, where the basic quotas were derived from the German Reiseanalyse, a representative study on the German holiday travel market (Schmücker, Grimm, et al., 2016).

We used a total of 80 respondents because a pre-study power analysis suggested using at least 54 individuals (for paired samples t-test with effect size $d = 0.5$, $\alpha = 0.05$ and a resulting power of 0.95).

For the IDM, we used IDM Visual Processor 1.02 (Schmücker, 2002), a tool specifically designed to set up, run and analyse IDM experiments. We used a standard computer with an Intel processor and 2 GB of RAM, equipped with a 19" display running at 1280x1024 pixels.

For the IDW, we developed a recording solution based upon standard software. We used an Apache 2.4 web server to deliver the content and write the log files. The user interface was a Firefox 47 browser running on the same machine as the Apache web server so that no public network was used to transfer data. This was mainly to reduce caching outside the control of the researcher (e.g. on content delivery networks). If contents were cached, the server would not record all retrievals and thus the retrieval protocol would be incomplete. Additionally, caching was disabled both on the web server, in the client software and in the HTML code. The web server log files need to be cleansed and brought into a "tidy" structure (Wickham, 2014).

Data from both IDM and IDW were aggregated from raw format (one line of data represents one retrieval) to experiment level (one line represents one experimental set) and from there to respondent level (one line of data represents one respondent).

3.3.2 Data analysis

We used a within-subjects design, each subject went through five sets of experiments. In the five experimental conditions (sets „idm1", „idm2", „idw1", „idw2", „idw3"), there are always two sets making a pair with only one changing parameter (see Table 9). Consequently, three pairs were tested for within-subject differences between conditions (idm1-idm2, idw1-idw2, idw2-idw3) using t-tests for paired samples (the combination idm2-idw1 is not discussed in detail in this paper because the results are of pure methodological interest). Because independent variables change between the pairs, each pair can be treated as a new experiment. Therefore, inflation of alpha error is not an issue and Repeated Measurement ANOVA would not be suitable for this kind of analysis (Girden, 1992). In order to check assumptions on normality, we used Shapiro-Wilks' test (Shapiro & Wilk, 1965) and either employed Student's t-test (t) if pre-assumptions were met or Wilcoxon's rank-sum test (W) if assumptions were violated. For hypotheses testing between groups within the same set, we used t-test if pre-assumptions on variance equality and normality were met and the Mann-Witney-Test (U) if not. For statistical testing and principal component analysis of the CIP scales we used JASP 0.8.1.1 (JASP Team, 2018), and double-checked all results with SPSS 15. For power calculations, we used G*Power 3.1.9.2 (Faul, Erdfelder, Buchner, & Lang, 2009).

To check our hypotheses, we used the following *attribute indicators* as dependent variables:

- Prevalence (P): The share of respondents (in %) who retrieved the attribute at least once
    - Steps (S): The absolute number of retrievals for the attribute
- Importance (I): The relative number of retrievals (in %)
- Average First Occurrence (AFO): The step number of the first occurrence of the attribute, averaged over all respondents. If the respondent did not view the attribute, no first occurrence is computed and the respondent has a missing value for computing the average.

In the same way, indicators for the alternatives can be constructed.

In theory, it would also be possible to additionally use a choice variable for the outcome of the experiment. In most sets (idm1, idm2, idw3), one alternative was communicated as the most sustainable (being awarded the EU Ecolabel and as a Certified Green Hotel/Dehoga Umweltcheck, see Table 10). However, regarding only one attribute without taking into account the preferences for all other attributes would lead to faulty results. Therefore, we did not analyse the choice outcome in these studies but will do so in a later phase of the FINDUS project.

4 Descriptive results

4.1 Respondent profiles

The descriptive results show that the target group intended for the experiments has been reached. We have a sample of 80 persons who are showing high involvement with holiday travel, but only moderate involvement with sustainable products in general. Attitudes towards sustainable holiday travel are slightly more negative than found in the population. Although, as a general rule, respondents do not reject sustainable alternatives and sustainability plays a certain role in holiday and non-holiday choice processes, these respondents cannot be expected to actively search for sustainability options in choosing their holiday hotel. Obviously, inter-individual differences exist between respondents, which will be addressed later.

These results were anticipated in advance and are in line with the main target group of the whole study (Günther et al., 2014).

4.1.1 Structural data

Structural key data on age, sex, and employment status and holiday travel activities of the respondents can be compared to the German-speaking population. Table 13 shows that age and sex distribution in our sample come reasonably close to the values in the population. In the sample, however, there are fewer persons who are currently not employed and, as a consequence, the number of long and short holiday trips is higher compared to the population.

Table 13: Structural data, FINDUS sample vs. German population

	Split 1 (Germa-ny)	Split 2 (Canaries)	Total sample	Holiday-makers Germany 2014-16	Holiday-makers Balea-ric/Canary Islands 2014-16
N	40	40	80	4,233	1,734
Male, %	50	50	50	47	50
Age (avg.)	47.5	46.1	46.8	49.6	43.7
Employment status, %					
Fulltime	48	58	53	42	58
Part time	33	36	34	7	4
Not employed	20	8	14	45	31
Average number of trips, last 12 months					
Holiday trips (5 days and more)	2.5	2.6	2.5	1.2	1.3
Short holiday trips (2-4 days)	2.9	3.2	3.0	1.0	1.0

Source for population data: Reiseanalyse 2017, © Forschungsgemeinschaft Urlaub und Reisen e.V.

4.1.2 Involvement with holiday travel and sustainable products

Involvement profiles were collected for “holiday travel” (pre-experiment survey) and “sustainable products” (post-experiment survey) using a shortened version of Laurent & Kapferer’s (1986) CIP. Results show that respondents are highly involved with holiday travel, but only moderately involved with sustainable products. On a five-point involvement scale, average scores can range from 1 (highly involved) to 5 (not at all involved). Table 14 shows that involvement scores for holiday travel had a grand mean of means of 1.75 (SD = 0.33), involvement scores for sustainability a mean of 2.67 (SD = 0.55). Both scores did not differ significantly between splits (for holiday travel involvement: W = 880, p = .45, for sustainability involvement: W = 829, p = .79).

Table 14: Average CIP involvement scores

Involvement items	Holiday trips (ex-ante survey)	Sustainable products (ex-post survey)	p
I1 … are important to me	1.26	2.79	**<.001**
I2 … interest me a lot	1.16	2.61	**<.001**
I3 … leave me completely indifferent (reverse)	1.16	1.99	**<.001**
P1 It is fun to take/use …	1.05	2.60	**<.001**
P2 Taking/using … is a bit like giving a gift to ourselves	1.30	3.08	**<.001**
P3 It is pleasure for me to take/use …	1.06	2.64	**<.001**
S1 You get an impression of someone depending on if/how he uses …	2.38	2.66	**.023**
S2 It tells about the personality if/how someone uses …	2.44	2.77	**.001**
S3 It tells others about what type of person I am using …	2.52	2.76	.082
R1 It is no problem when you choose the wrong … (reverse)	2.27	2.46	.261
R2 It is annoying to choose the wrong …	2.02	3.00	**<.001**
R3 If one realises that one has chosen the wrong … it is disturbing	2.35	2.71	**.029**
Mean of means	1.75	2.67	

Numbers are means from a scale of 1 = Completely agree through 5 = Completely disagree; p values are from paired samples t-tests using Wilcoxon signed rank test; item order was randomised during the interviews

Further results show that the majority of respondents is only moderately concerned with sustainability issues when taking a holiday trip (and even less with ecological aspects compared to social aspects). Most involvement scores are significantly higher (i.e. smaller numbers) for holiday trips compared to general sustainable products. This is true for all items except S3 and R1, which do not differ significantly between the two groups.

4.1.3 Attitudes towards sustainable holiday trips

Attitudes towards eleven aspects of holiday travel were collected using a standard scale from the German Reiseanalyse (Schmücker, Grimm, & Beer, 2016). It covers attitudes towards, among others, booking and packaging, pricing, and special needs during a holiday. Two of the items cover ecological and social aspects of sustainability. Using this standardised scale for attitude measures prevents priming of respondents and reduces social desirability bias. Table 15 shows that the members of our sample have a slightly more negative attitude towards these aspects compared to the population.

Table 15: Attitudes towards sustainability aspects in holiday travel

	Split 1 (Germany)	Split 2 (Canaries)	Total sample	Holiday-makers Germany 2014-16	Holiday-makers Balea-ric/Canary Islands 2014-16
N	40	40	80	4,233	1,734
My holiday trips should be as ecologically compliant, resource-efficient and eco-friendly as possible					
1 – Completely agree	5	10	8	20	19
2	30	18	24	31	31
3	40	40	40	35	37
4	10	28	19	10	11
5 – Completely disagree	15	5	10	3	3
My holiday trips should be as socially compliant as possible (…)					
1 – Completely agree	13	18	15	24	24
2	35	40	38	33	31
3	35	30	33	33	34
4	18	5	11	7	8
5 – Completely disagree	0	8	4	2	2

Numbers are percentages; Data on the two aspects shown were collected within a frame of nine other attitude items not related to sustainability issues. Source for population data: Reiseanalyse 2017, © Forschungsgemeinschaft Urlaub und Reisen e.V.

Furthermore, we asked our respondents a factual question about the importance of sustainability for their last holiday trip. For this question, we can use reference data from the German-speaking population from Reiseanlyse 2014. The comparison is, however, slightly skewed because the original question was longer and therefore, the two columns on the right of Table 16 do not add up to 100%. The table shows, however, that the percentages for the first two items are comparable, while the last item “not at all interested in sustainable travel", has considerably lower values in the FINDUS sample compared to the population.

Table 16: Importance of sustainability for the last holiday trip

	Split 1 (Germany)	Split 2 (Canaries)	Total sample	Holiday-makers Germany 2014-16	Holiday-makers Balea-ric/Canary Islands 2014-16
N	40	40	80	4,233	1,734
Sustainability was the key criterion	0	0	0	2	1
Sustainability turned the balance be-cause offers were equivalent in other aspects	3	5	4	2	2
Sustainability was one aspect among others	33	25	29	11	12
Sustainability was of no importance for that particular holiday trip	60	62	61	25	25
I am not at all interested in sustainable travel	5	8	6	25	28

Numbers are percentages. Source for population data: Reiseanalyse 2014, © Forschungsgemeinschaft Urlaub und Reisen e.V.

4.1.4 Stated importance of sustainability information

Lastly, in order to get an additional view on the results of the IDM and IDW experiments, we asked respondents to rate the importance of those information attributes used in the IDM and IDW. Table 17 shows that “Environment and Sustainability” rank second to last among all 15 items shown to the respondents. This result anticipates some of the results to be found when using process tracing methods in later chapters of this paper.

Table 17: Stated importance of information items (post-experimental survey)

	1 - very important	2	3	4	5 - not all important
Images	69	25	4	3	0
Hotel features	63	28	10	0	0
Ratings	38	43	9	10	1
Destination	35	46	16	3	0
Room features	30	46	18	4	3
Food and drink	25	43	23	9	1
Price	15	51	31	1	1
Hotel data	20	43	21	14	3
Wellness	26	36	20	10	8
Stars	15	43	35	5	3
Sports and activities	24	26	31	16	3
Highlights	10	30	30	26	4
Special offer	6	33	35	21	5
Environment and Sustainability	5	15	39	29	13
Hotel name	0	6	9	29	56

Numbers are horizontal percentages; ordered by Top 2 sum

4.2 Information acquisition

We recorded the number of steps before the decision (STEPS) and the time in seconds between start and end of the experiment (VIEWTIME_SEC) for each of the five experimental sets.

4.2.1 Information retrieval steps

The number of steps was highest in the large IDM (idm2, M = 69.99 sec, SD = 33.03) and lowest in the smaller IDM (idm1, M = 45.09 sec., SD = 22.60), while the IDWs were in between (M = 50.46, 49.56 and 51.34 sec., see Table 18). Differences between idm1 and idm2 are significant (W = 381, $p < .001$), and also idm2 and idw1 differ significantly (W = 2,682, $p < .001$), while differences between IDW sets are not significant (Table 19). Power for both significant relations is close to 1.

Table 18: Number of information steps under the five conditions

Steps	**Idm1**	**Idm2**	**Idw1**	**Idw2**	**Idw3**
Valid	80	80	80	80	80
Missing	0	0	0	0	0
Mean	45.09	69.66	50.46	49.56	51.34
Std. Deviation	22.60	33.03	24.60	24.52	23.45
Minimum	14.00	22.00	2.000	10.00	15.00
Maximum	140.0	198.0	164.0	122.0	147.0
25th percentile	29.25	46.00	32.50	31.25	32.00
50th percentile	40.50	64.00	48.50	45.00	50.50
75th percentile	54.75	88.75	68.75	66.75	67.00

Table 19: Paired sample T-Tests for number of steps between conditions (Wilcoxon Signed Rank Test)

Parameter 1	Parameter 2	W	P	Cohen's d
STEPS.idm1	STEPS.idm2	381.0	< .001	-0.789
STEPS.idm2	STEPS.idw1	2682.0	< .001	0.631
STEPS.idw1	STEPS.idw2	1751.5	0.403	0.050
STEPS.idw2	STEPS.idw3	1353.5	0.269	-0.100

Between the two splits of air travellers and domestic holidaymakers, there are no significant differences in terms of information retrieval steps for all five experimental sets. Furthermore, the direction of mean differences is not consistent, with the domestic holidaymaker split (DE) having a lower mean for idm1 and a higher mean under all other conditions (Figure 4).

Table 20: Independent samples t-tests (Student) for mean differences in information retrieval steps between the two splits (DE and EU)

Parameter	T	Df	P	Mean Difference	SE Difference	Cohen's d
STEPS.idm1	-1.749	78.00	0.084	-8.725	4.989	-0.391
STEPS.idm2	0.678	78.00	0.500	5.025	7.412	0.152
STEPS.idw1	0.959	78.00	0.341	5.275	5.503	0.214
STEPS.idw2	1.732	78.00	0.087	9.375	5.414	0.387
STEPS.idw3	0.498	78.00	0.620	2.625	5.270	0.111

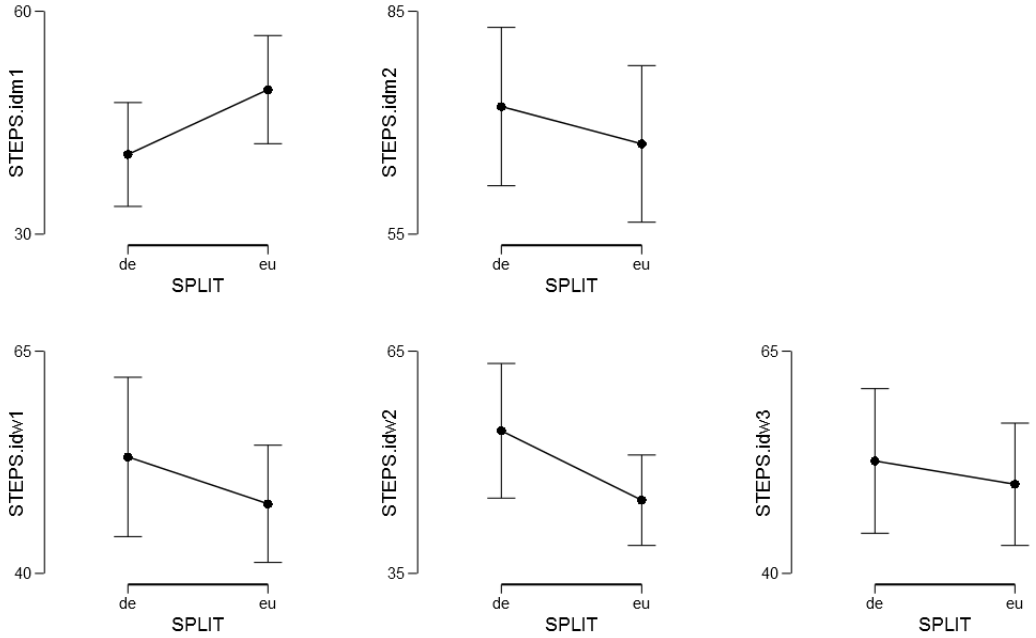

Figure 4: Mean number of information retrieval steps for the two splits; whiskers indicate 95%- confidence intervals

4.2.2 Viewing time

As for the viewing time, again the smaller IDM (idm1) showed the lowest mean (M = 119.0 sec., SD = 61.22), while the large IDM (idm2) took longer (M = 218.1 sec., SD = 115.0). However, the three IDW sets took considerably longer than the IDMs (330.3 sec., 337.4 sec. and 346.3 sec., respectively). Consequently, again the differences between idm1 and idm2 (W = 192.5, $p < .001$) and between idm2 and idw1 (W = 396.0, $p < .001$) were significant while those in the pairs idw1-idw2 and idw2-idw3 were not. This supports the initial idea that the matrix form in an IDM is much more efficient compared to the more realistic IDW form of stimulus presentation. Consequently, the average time for an information step is higher in the IDW conditions compared to the IDM conditions (Figure 5).

Table 21: Viewing time in seconds under the five conditions

Viewtime (sec.)	Idm1	Idm2	Idw1	Idw2	Idw3
Valid	80	80	80	80	80
Missing	0	0	0	0	0
Mean	119.0	218.1	330.3	337.4	346.3
Std. Deviation	61.22	115.0	170.7	181.1	166.0
Minimum	40.00	59.00	5.000	66.00	102.0
Maximum	305.0	699.0	898.0	1052	961.0
25th percentile	70.50	146.0	230.2	213.0	213.5
50th percentile	105.0	191.0	291.0	330.5	324.5
75th percentile	156.5	278.8	394.8	415.0	451.8

Table 22: Paired samples t-tests for viewing time between conditions (Wilcoxon Signed-Rank Test)

Parameter 1	Parameter 2	W	P	Cohen's d
VIEWTIME_SEC.idm1	VIEWTIME_SEC.idm2	192.5	< .001	-0.983
VIEWTIME_SEC.idm2	VIEWTIME_SEC.idw1	396.0	< .001	-0.641
VIEWTIME_SEC.idw1	VIEWTIME_SEC.idw2	1569.5	0.810	-0.038
VIEWTIME_SEC.idw2	VIEWTIME_SEC.idw3	1479.0	0.500	-0.054

As for the view time differences between the two splits, we can repeat the results we had already discussed in the information retrieval steps chapter above: There are no significant differences between the two splits and the direction of difference is heterogeneous, as is shown in the signs of the mean difference column in Table 23.

Table 23: Independent Samples t-test (Student)for mean differences in view time between the two splits (DE and EU)

Parameter	T	Df	P	Mean Difference	SE Difference	Cohen's d
VIEWTIME_SEC.idm1	-0.820	78.00	0.415	-11.250	13.72	-0.183
VIEWTIME_SEC.idm2	0.696	78.00	0.489	17.950	25.80	0.156
VIEWTIME_SEC.idw1	-0.226	78.00	0.822	-8.675	38.39	-0.051
VIEWTIME_SEC.idw2	0.058	78.00	0.954	2.350	40.75	0.013
VIEWTIME_SEC.idw3	-0.135	78.00	0.893	-5.025	37.36	-0.030

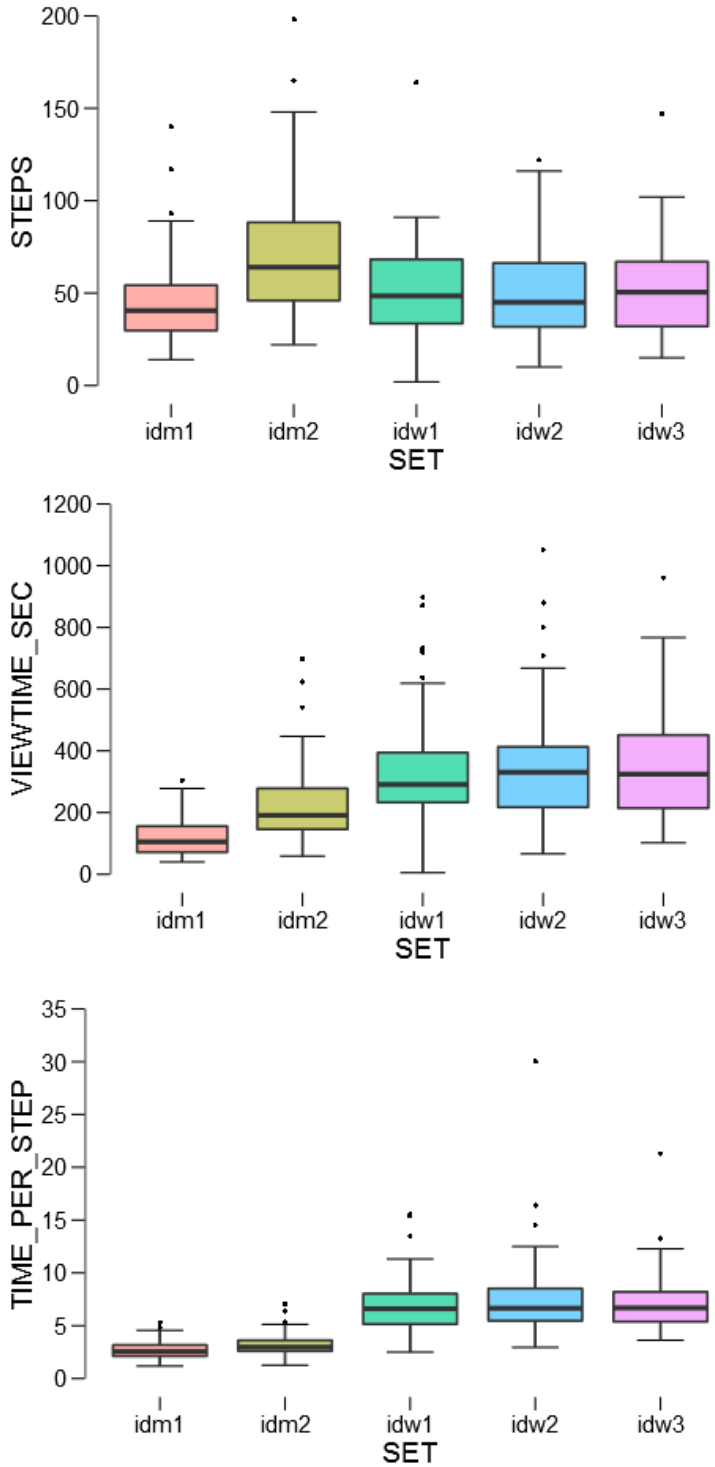

Figure 5: Number of steps, viewing time in seconds and average viewing time per step between conditions

5 Hypothesis testing results

5.1 H1: Quantity of available information (matrix size)

It was hypothesised that sustainability information would become more important if it was one of few attributes compared to a situation where many other attributes are available to distract the respondent from the sustainability information.

5.1.1 Indicators

To check whether the amount of available information would change the acquisition of sustainability information, we compare the conditions *idm1* with 7 attributes and *idm2* with 15 attributes. Consequently, the prevalence per attribute and the absolute number of steps per attribute are lower in condition *idm2*. Naturally, the measured importance is considerably lower in *idm2*. Table 24 shows the main descriptives. The attribute “Environment and Sustainability” is the one with the lowest frequency (prevalence, steps, importance) and the latest average occurrence (i.e. is on average retrieved later than all other attributes) under both conditions.

Table 24: Descriptives for attributes in conditions idm1 and idm2

Condition	Set 1 (idm1)				Set 2 (idm2)			
Indicator	P	S	I	AFO	P	S	I	AFO
Stars	96	433	12.0	13.6	94	398	7.1	21.3
Hotel features	96	558	15.5	14.6	94	382	6.9	28.8
Room features	96	537	14.9	12.5	96	389	7.0	24.2
Short rating, recommendation	98	503	13.9	11.4	88	374	6.7	24.5
Location	99	626	17.4	12.6	99	470	8.4	25.5
Price	98	585	16.2	13.5	96	486	8.7	22.0
Environment and Sustainability	88	365	10.1	15.8	75	262	4.7	31.1
Detailed rating					86	352	6.3	27.8
Food and drink					91	349	6.3	26.8
Highlights					88	336	6.0	28.2
Hotel data					88	411	7.4	22.1
Destination					86	392	7.0	24.6
Special offer					79	285	5.1	30.8
Sports and activities					84	329	5.9	30.9
Wellness					89	358	6.4	26.7
Sum	661	3,607	100.0		1,313	5,573	100.0	

P = Prevalence (in % of respondents), S = Steps (absolute), I = Importance (share of steps, in %), AFO = Average First Occurrence

Obviously, under condition *idm2* the attribute “Environment and Sustainability” is used less frequently both in terms of prevalence, absolute numbers, and importance, and the average first occurrence is later than under condition *idm1*. However, this applies to almost all seven attributes which were used under both conditions. Therefore, we need to assess whether the change in the attribute "Environment and Sustainability" is greater in relation to other

attributes. As noted above, the ranking for the attribute "Environment and Sustainability" does not change, so that it is ranked last under both conditions.

Table 25: Standardized descriptives for attributes in conditions idm1 and idm2

Condition	Set 1 (idm1)				Set 2 (idm2)			
Indicator	z(P)	z(S)	z(I)	z(AFO)	z(P)	z(S)	z(I)	z(AFO)
Stars	0,04	-0,98	-0,99	0,13	0,30	0,05	-0,13	-1,26
Hotel features	0,04	0,51	0,74	0,87	0,30	-0,18	-0,13	1,06
Room features	0,04	0,26	0,31	-0,69	0,57	-0,08	-0,13	-0,36
Short rating, recommendation	0,63	-0,15	-0,12	-1,51	-0,50	-0,30	-0,13	-0,27
Location	0,92	1,32	1,17	-0,62	0,97	1,11	0,76	0,04
Price	0,63	0,83	0,74	0,05	0,57	1,35	1,65	-0,98
Environment and Sustainability	-2,31	-1,80	-1,85	1,76	-2,23	-1,95	-1,91	1,77

Z-scores of P = Prevalence (in % of respondents), S = Steps (absolute), I = Importance (share of steps, in %), AFO = Average First Occurrence

We can additionally transform the four indicators into z-values so that the relative position within the set of seven attributes is well reflected (Table 25). When comparing the seven identical attributes through their standardized values (z-values for the four indicators), we see that the “short rating” attribute has lost the most on the prevalence and AFO indicators (in relation to the seven comparable indicators), while hotel feature and room features lost most on the absolute number of steps and the relative importance. Location, price and stars attributes have gained in importance, though not equally on all four indicators.

5.1.2 Conclusion

Although there is some variation in the data, the "Environment and Sustainability" attribute ranks last under both conditions. Changing the number of available information does not change the ranking in terms of prevalence (P), importance (I) and first appearance (AFO). We can, therefore, reject hypothesis 1.

5.2 H2: Implicit vs. explicit information

It was hypothesised that implicit sustainability information would draw more attention than explicit information. Implicit sustainability information is information about sustainable product elements without being explicitly labelled as such.

5.2.1 Indicators

In the IDW sets *idw1* and *idw2*, the format of sustainability information is the changing variable. While in *idw1*, the sustainability information is given explicitly (in the form of a separate category labelled “Environment & Sustainability”, containing the EU Ecolabel and/or a private certificate or none of it), implicit sustainability information is given in *idw2*. Here, the category was labelled neutrally (“Highlights”), and the information is clearly describing sustainable activities (see Table 11 on page 63). The “highlights” category also exists in *idw1*, but with neutral (not sustainability-related) content.

Data show that again the “Environment and Sustainability” attribute is the least used of all categories except those which were already visible on the selection page (P = 66%, I = 3.9%). This confirms the findings from the IDM experiments.

As to the “Highlights” attribute, we compare the neutral description under condition *idw1* with the sustainable version under condition *idw2*. Although prevalence (P) decreased slightly from 73% to 71%, the number of retrievals (S) increased from 143 in *idw1* to 161 in *idw2*.

The mean number of retrievals changes from condition *idw1* (M = 2.47, SD = 1.35) to condition *idw2* (M = 2.83, SD = 1.64). This attribute is the only one which shows a significant change of indicator S between conditions (W = 98, p = .042). Changes in all other attributes are not significant on the .05 level. The ranking in regard to the “Highlights” attribute, however, has not changed. The highlight attribute is on rank 12 under both conditions.

Table 26: Descriptives for attributes in conditions idw1 and idw2

Condition		Set 3 (idw1)				Set 4 (idw2)			
Indicator	Select	P	S	I	AFO	P	S	I	AFO
Selection page		100	518	14,7	1.0	100	489	14,1	1.0
Location		96	314	8.9	8.8	96	325	9.4	8.0
Pictures	(x)	91	346	9.8	7.3	93	320	9.2	7.7
Hotel features		86	222	6.3	11.2	85	234	6.7	9.0
Room features		86	220	6.3	12.0	83	231	6.7	12.3
Food and drink		84	210	6.0	13.7	86	229	6.6	12.7
Hotel data		80	220	6.3	11.9	78	224	6.4	11.2
Rating detailed		79	193	5.5	7.1	83	204	5.9	8.5
Wellness		78	204	5.8	15.2	80	215	6.2	14.6
Destination		75	177	5.0	16.9	71	173	5.0	16.2
Sport and activity		74	184	5.2	15.4	79	203	5.8	14.4
Highlights		73	143	4.1	18.9	71	161	4.6	17.9
Price	x	70	185	5.3	9.6	74	190	5.5	10.5
Environment and Sustainability		66	136	3.9	14.5	-	-	-	-
Special offer	x	56	116	3.3	18.2	61	141	4.1	17.1
Stars	x	56	131	3.7	7.2	56	134	3.9	9.1
Sum		1250	3519	100		1195	3473	100	

P = Prevalence (in % of respondents), S = Steps (absolute), I = Importance (share of steps, in %), AFO = Average First Occurrence; index and alternative start page not counted for S and I indicators; Select indicates whether this information was also present on the selection page. Table ordered by P indicators under condition idw1

As to the position (AFO), the “Environment and Sustainability” attribute was not the last retrieved but is on rank 10 from 15 (AFO = 14.5). The position of an attribute on the AFO indicator reflects for most attributes the position of the attribute on the screen. Most respondents acquired the information in such a way that they chose a hotel and then went through the available information, starting at the top of the page. This acquisition strategy is forced by the presentation format. Taking this order effect into account, the “Environment and Sustainability” attribute ranks lower on the AFO indicator (rank 10) compared to its actual position on the screen (rank 8). This suggests that in some cases the attribute was intentionally skipped in the information acquisition process. It is the only attribute which has a

difference of 2 between AFO and actual order rank. As to the “Highlights” attribute, it was expected that it ranks last on the AFO indicator because it also was presented on the last position of the screen. In fact, it ranks last under both conditions.

5.2.2 Conclusion

From the results, we can infer that providing the “Highlights” attribute with sustainability information leads to a significant change in the number of retrievals, although for slightly fewer respondents. The rank, however, does not change, which suggests that the actual importance is statistically significant, but not necessarily relevant.

5.3 H3: Key/title labels

The difference between the two sets 4 (*idw2)* and 5 (*idw3)* is that in set 5 (*idw3*) the sustainability information is already visible on the product selection page, while under condition 4 (*idw2*) it is not. In addition, the names and images of the hotels differ under the two conditions, while all other aspects on the product selection page (ratings, prices, wellness and value-for-money labels) are identical. Furthermore, the sequence in which the four hotels are presented differs between the two conditions.

Under condition 5 (idw3), Hotel 1 (“Hotel Am Fjord”/”Hotel Playa Park”) was labelled with the EU Ecolabel and a private label, while Hotel 3 (“Hotel Ankerplatz”/Hotel Canymamel”) exhibits no labels at all on the product selection page. The other two hotels show either the EU Ecolabel or a private label (see Table 10 for more details).

In this analysis, we do not consider the *attribute* indicators (prevalence, the number of steps and importance of retrievals), but rather at the same indicators in relation to the *alternative*. We do not report, however, the AFO indicator, because this is assumed to depend on the sequence in which the alternatives are presented on the product selection page.

5.3.1 Indicators

The first indicator to look at is the prevalence, i.e. the share of respondents who actually retrieved information on a given alternative. Under condition *idw2*, Hotel 1, which has a medium rating and medium price and is labelled as a “wellness tip”, ranks first, with 93.8% (75 out of 80 respondents) searching for information on this hotel. This indicator is stable under condition *idw3*. However, under condition *idw2*, Hotel 1 is outranked by hotel 4 reaching 96.3% (77 out of 80 respondents). Under both conditions, it is the second alternative counting from the top of the web page which has the highest scores in terms of prevalence. At the same time, it is the alternative without any eco-label (Hotel 3 in set *idw2*) which is selected least often (although it has the same Spartipp/value for money-label as Hotel 4).

Regarding the number of steps as an indicator of the depth of information, we can see that Hotel 1 is evaluated most intensely under condition *idw2* (995 steps, 29.3%), while under condition *idw3,* after the two sustainability labels are shown to the respondents, the number of retrieval steps decreases to 896 (25.7%). Under this condition, Hotel 1 appeared in the third place, while under condition *idw2*, it appeared in the second place. Under both conditions, it is the alternative appearing in the second place which is evaluated most intensely.

Table 27: Results for conditions idw2 and idw 3

	Condition idw2 (no sustainability labels)					Condition idw3 (sustainability labels)				
	Label	Seq.	P	S	I	Ecolabel Other label	Seq.	P	S	I
Hotel 1	Wellnesstipp	2	93.8	995	29.3	EU+CGH Wellnesstipp	3	93.8	896	25.7
Hotel 2	None	4	88.8	807	23.8	EU None	1	92.5	822	23.6
Hotel 3	Spartipp	1	85.0	802	23.6	None Spartipp	4	85.0	809	23.2
Hotel 4	Spartipp	3	83.8	792	23.3	CGH Spartipp	2	96.3	960	27.5

Seq. = Sequence on the product selection page; P = Prevalence (in % of respondents), S = Steps (absolute), I = Importance (share of steps, in %); EU = EU Ecolabel, CGH = Certified Green Hotel or Dehoga Umweltcheck, Spartipp=Value for money

5.3.2 Conclusion

The results do not support the idea that labelling a hotel product in the product selection page would lead to a higher rate of information retrieval. While in the one case (Hotel 4 under condition idw3) prevalence and importance rates go up when adding one eco-label, in the other case (Hotel 1) prevalence remains stable and importance goes *down* after adding two labels and in still another case (Hotel 2) prevalence goes up while importance remains stable after adding one label.

On the other hand, we can also not conclude that labelling a hotel as ecological or sustainable would lead to a *reduction* of information search. The most stringent conclusion that we can draw from these data is: It does not matter much for the information processing whether a hotel on the product selection page has two, one or no eco-labels.

5.4 H4: Attitude and information acquisition on sustainability

It was hypothesised that a positive attitude towards sustainability would lead to a more intense evaluation of sustainability information.

5.4.1 Indicators

We assessed the attitude towards sustainability with a CIP scale (see Table 14). Using hierarchical cluster analysis (squared Euclidean distance, Ward's algorithm), we can identify two groups, one with high sustainability involvement (28% of respondents), and one with lower sustainability involvement (72% of respondents).

The first, high-involvement group, in fact, uses the environment and sustainability information available in the two IDM sets more frequently than the other group (Table 28). The mean difference, however, is not statistically significant for set *idm1* and just scratches the 5% threshold for set *idm2*. In the set *idw1*, mean values are considerably lower due to the different setup of the task. Mean difference, again, is pointing into the hypothesised direction, but is not statistically significant.

Table 28: Retrievals of information item “Environment and Sustainability”, by involvement groups

Information item: environment and sustainability	High involvement group	Low involvement group	t-test
N	22	57	
Information retrievals in set idm1, avg.	5.09	4.35	t(77) = 0.924, p = .359
Information retrievals in set idm2, avg.	4.32	2.84	t(77) = 2.014, p = .047
Information retrievals in set idw1, avg.	1.95	1.60	t(77) = 0.843, p = .402

A second way to assess the influence of attitudes towards sustainability on the information retrieval is to use the answers from Table 15 and combine them so that a first group emerges which has a high interest in sustainability (both variables have values 1 or 2, 25% of respondents), the second group shows moderate interest (one of the two variables has values 1 or 2, 34%) and the third group is the rest (41%). Again, mean differences in information retrievals can be found, but none of the differences even comes close to a significance threshold (Table 29).

Table 29: Retrievals of information item “Environment and Sustainability”, by attitude groups

Information item: environment and sustainability	Very interested	Somewhat interested	Not interested	ANOVA
N	20	27	32	
Information retrievals in set idm1, avg.	4.5	4.9	4.4	F(2,77) = 0.178, p = .838
Information retrievals in set idm2, avg.	3.8	3.7	2.6	F(2,77) = 1.477, p = .242
Information retrievals in set idw1, avg.	2.1	1.6	1.6	F(2,77) = 0.843, p = .402

5.4.2 Conclusion

It was shown, that a higher involvement with sustainable products as measured through a CIP-like scale tends to lead to a more intense evaluation of sustainability information, while the stated interest measured through a Likert-type scale does not show consistent patterns.

5.5 H5: Influence of destination type

It was hypothesised that the destination type (German Baltic coast as an example for national tourism and Tenerife as an example for a typical sun & beach destination, see Chapter 3.1) would have an influence on the evaluation of the environment and sustainability information item. After having shown, that there are no significant differences between the splits in the number of information retrieval steps and the view time (chapter 4.2 above), we will now use the sets *idm1*, *idm2* and *idw1* to check whether the environment and sustainability item are evaluated differently between the two splits.

5.5.1 Indicators

We compared the means of the number of information retrieval steps and the view-time between the two splits using an independent-samples t-test. The mean differences are pointing into one direction in one case (STEPS.idm1) and in another direction in the five other cases (Table 30). None of the six mean differences between the two splits comes even close to an error level of 5% or below.

Table 30: Independent Samples T-Test (Student) for mean differences between splits under the conditions idm1, idm2 and idw1

Parameter	T	Df	P	Mean Difference	SE Difference	Cohen's d
STEP.idm1	-1.023	78.00	0.309	-0.725	0.709	-0.229
STEP.idm2	1.057	78.00	0.294	0.700	0.662	0.236
STEP.idw1	1.338	78.00	0.185	0.500	0.374	0.299
VIEWTIME_SEC.idm1	0.241	68.00	0.810	0.277	1.138	0.058
VIEWTIME_SEC.idw1	0.032	51.00	0.975	0.170	5.307	0.009
VIEWTIME_SEC.idm2	1.183	58.00	0.242	2.567	2.169	0.306

In order to further investigate a possible effect of destination type, we also checked whether the above-mentioned two involvement clusters of respondents (high involvement cluster with 22 respondents and low involvement cluster with 57 respondents) systematically vary between splits. The analysis, however, does not even come close to a statistically significant result ($\chi^2(1,N = 79) = 0.187$, $p = .666$).

5.5.2 Conclusion

Although it was hypothesised that the character of the destination, namely ground travel and air travel could affect the search for sustainability information or the attitude towards sustainability, data suggest otherwise. We can, therefore, reject hypothesis 5.

6 Discussion

We have checked the information acquisition and retrieval in hypothetical choice situations for holiday accommodations using experimental process tracing methods. The 80 respondents had previous experience with the type of destinations used (German Baltic coast and the Canary Islands) and were not particularly inclined towards sustainability in general or sustainable holiday travel in particular. This selection was done on purpose to stick to the general idea of the FINDUS project to work in the framework of the tourism mass market instead of the sustainability niche. Although this study uses an experimental design (a framework in which researchers frequently do not put much emphasis on carefully selecting respondents), we tried to identify and work with a group of respondents representing typical users of the holiday products in order to increase external validity of the study.

First, one of the main results of the research is that an indicator concerning the sustainability performance of a holiday product obtains the least attention of all available information. This is true in a setting of 15 information attributes, which is a realistic number when we look at the website actually in the market today, and it does not get substantially more at-

tention relative to other categories even when the number of competing for information categories is reduced to six.

Second, it was found that about 30-40% of respondents actively skipped the explicit label of "Environment and Sustainability" during their information acquisition even in this experimental setting with a very efficient layout of information categories.

Third, even displaying the environment and sustainability label on the product selection page does not lead to a more intense evaluation of the respective hotel product. The labels displayed on the selection page did not significantly influence the subsequent information retrieval for an alternative.

Fourth, in comparison, the more neutral attribute "Highlights" is evaluated slightly more intensely. When sustainability information is “hushed” under the highlights label, the intensity of information acquisition goes significantly up. The thoughtfully given explanation, as well as the offer of experience and sustainable practices, seemed to have attracted respondents more than an explicit sustainability cue in terms of a label. This implies that sustainability information can retrieve more attention by customers when it is given implicitly combined with different attributes about a holiday product.

Fifth, the results of this study suggest that high involvement with sustainable products only slightly relates to the use of available explicit sustainability information. Even those respondents who are generally highly involved with sustainable products are retrieving sustainability information only slightly more often compared to the rest of the sample. This effect goes further down (and becomes statistically insignificant) when we ask for the stated interest in sustainable holidays. A possible reason for this non-effect is social desirability: Respondents might have answered questions concerning the interest in sustainable holidays according to what they think is socially acceptable. For future research, it is suggested to pay utmost attention to the way in which interest in sustainability is measured to reduce social desirability bias. However, it was shown that respondents' involvement with sustainable products has an effect on the retrievals of sustainability information cues.

Finally, it was found that the two splits of 'air-travellers' and 'domestic holidaymakers' exhibited no difference in their retrievals of sustainability information. This split was primarily initiated to take the role of transport for the climate footprint into account. Thus, ground travellers might have a higher probability to retrieve sustainability information. However, data did not show a systematic or statistically significant difference. One reason might be that when examining the accommodation alternatives, the aspect of transportation does not come into respondents' minds immediately. Thus, accommodation information seems to override transport aspects once the destination choice is fixated.

The main finding of this study is that explicit sustainability information on online booking channels does not receive much attention by consumers during the information acquisition process. It is ranked last of all attributes and 30-40% of respondents skip the category altogether. As a consequence, when information is not perceived, it is more than unlikely that it can influence the travel decision towards the more sustainable alternative.

Data suggest, however, that implicit sustainability information draws slightly more attention and thus bears the potential to influence travel decision. We used sustainable product add-ons under the label of “highlights”, which was used more intensely in the information acquisition process compared to a neutral “highlights” category. This result suggests that those product descriptions including an emotional or experiential sustainability factor can be more

successful than those simply displaying an eco-label. Thus, it can be inferred that a clever packaging of sustainability aspects (cf. our examples “harvesting sea-urchins” or “cheese for kilometers” in annex 0) can be more important than technical information – at least in the mass market with a target group that is not assumed to actively search for or evaluate deeply sustainability information.

Still, even using implicit information categories, sustainability simply does not seem to be an issue for our respondents, who are intended to represent a standard holiday traveller in terms of sustainability preferences. Results show, that sustainability information does not necessarily bother consumers and they do not seem to set much focus on this attribute when forming a decision about their holiday travel plans. Cues on sustainability information 'get lost in the shuffle' of many other information cues.

The impact of these results is that it seems to be unlikely that product information in the way it is implemented today can lead to a significant change in preferences for customers in the mass market. Too small is their interest in sustainability information within the plethora of competing and, for the customer, more relevant informational cues. This said, it seems to be all the more important to mobilise all explicit and implicit information cues, if the goal is to promote the more sustainable alternative.

We will continue investigating these questions further in the FINDUS project using eye movement tracking, field experiments on live online platforms and discrete choice experiments.

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8 Annex

8.1 Example of an IDM set

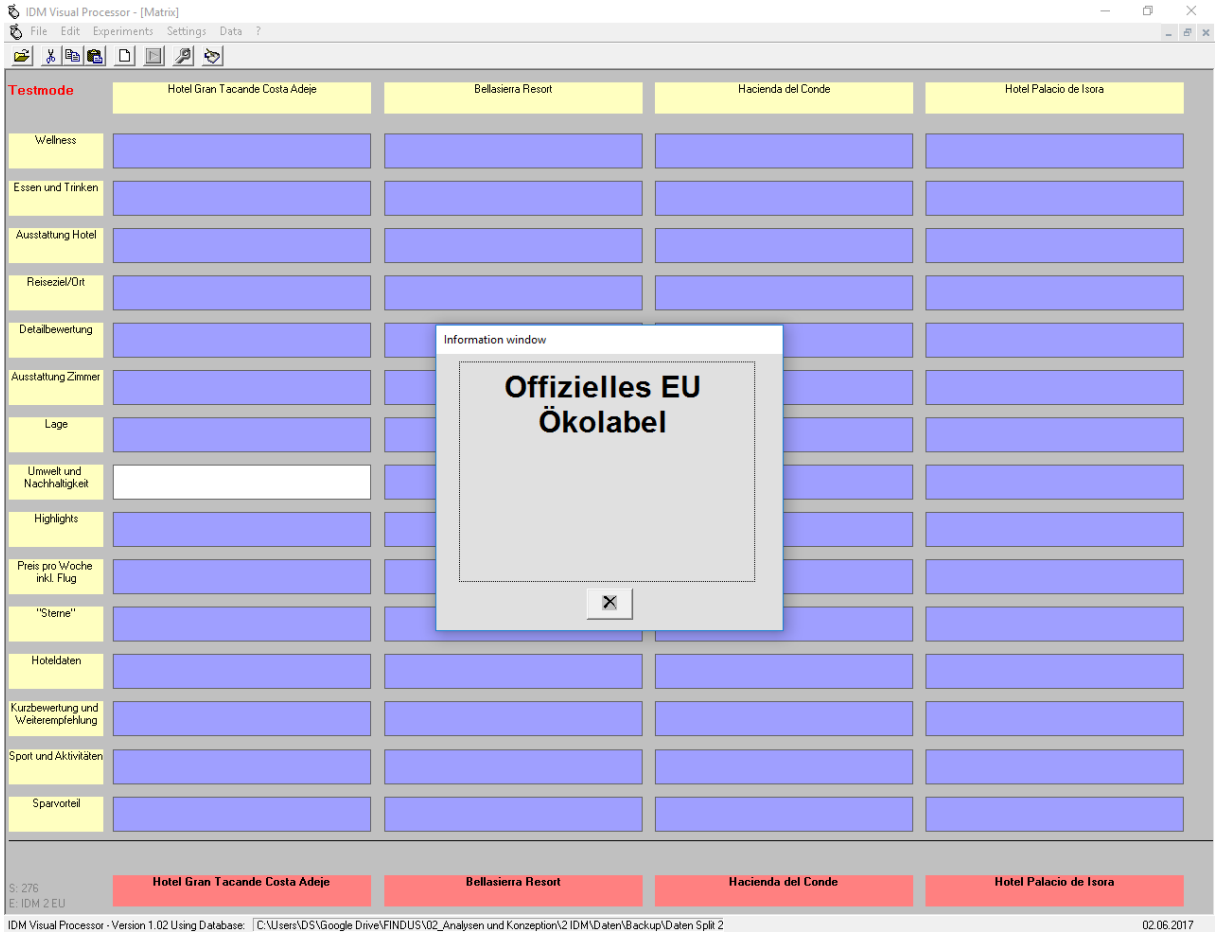

Figure 6: Information Display Matrix showing a version of set idm2 (15 attributes) with attribute “Environment and Sustainability” selected for “Hotel Gran Tacande Costa Adeje”, running at 1280x1024 pixels.

Respondents click on a series of blue fields to retrieve information and finally on one red field to select an alternative and end the experiment. Note that the positions of attributes and alternatives are randomly assigned to avoid sequence effects.

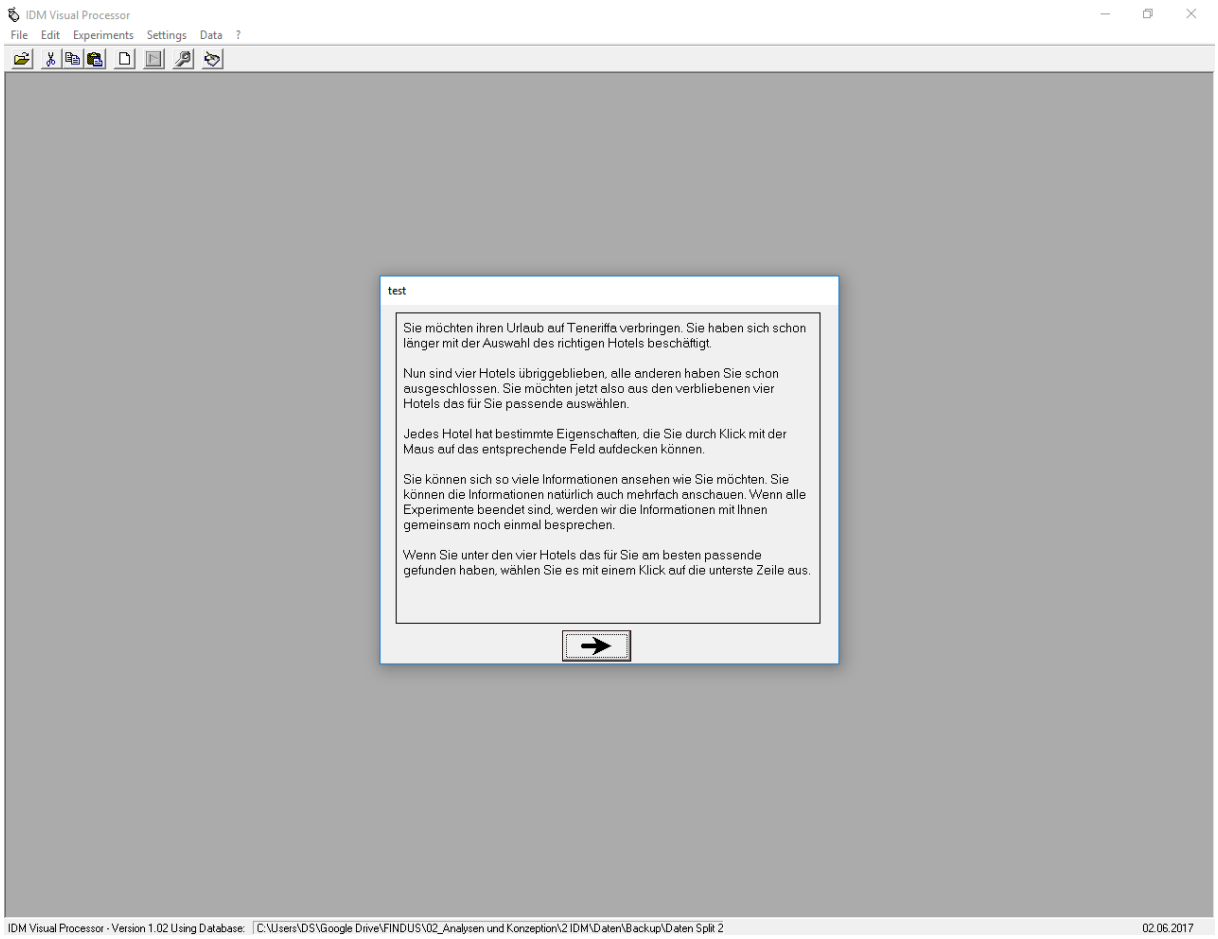

Figure 7: Instruction screen for the IDM experiments, running at 1280x1024 pixels

8.2 Example of an IDW set

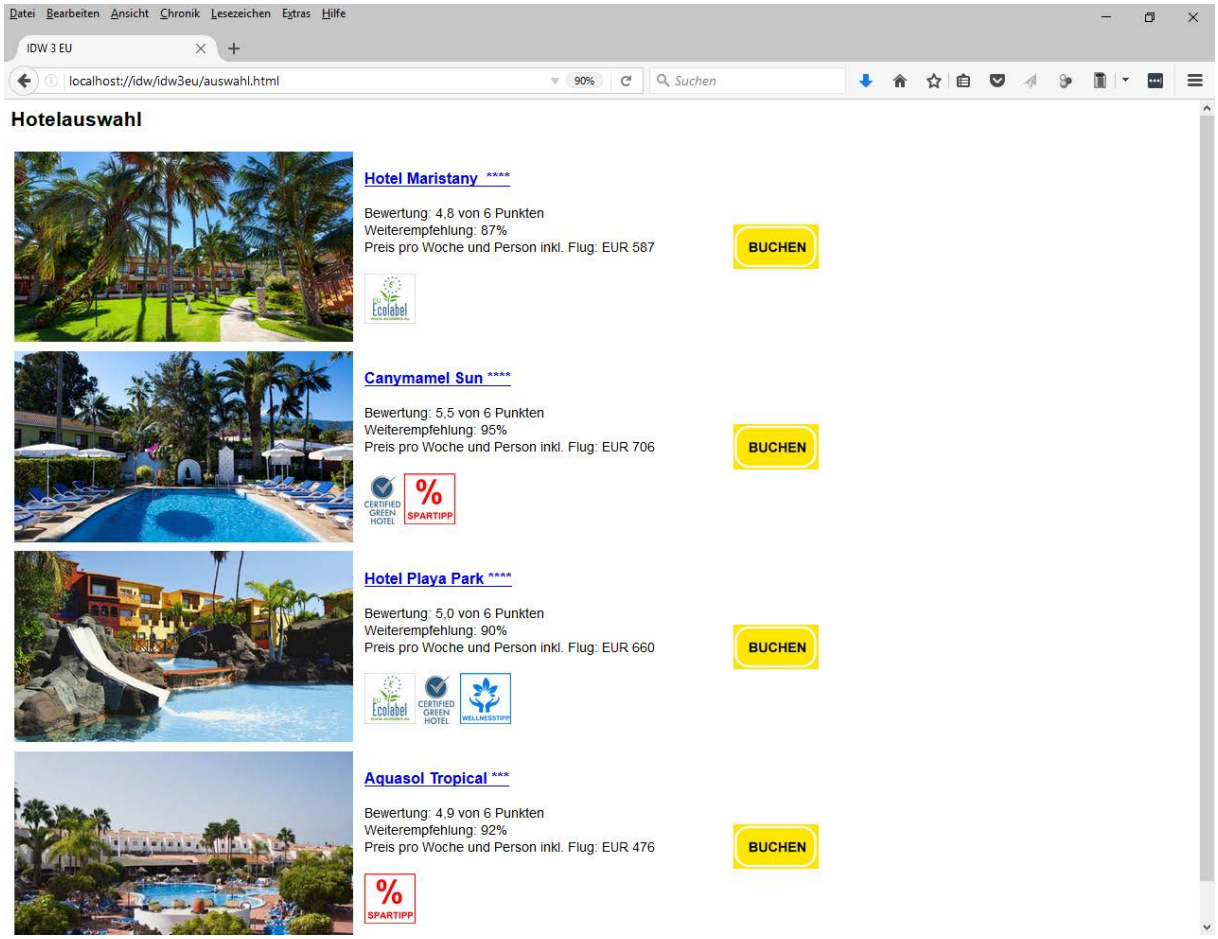

Figure 8: Product selection page for IDW experiments (set idw3, running at 1280x1024 pixels, size reduced to 90%)

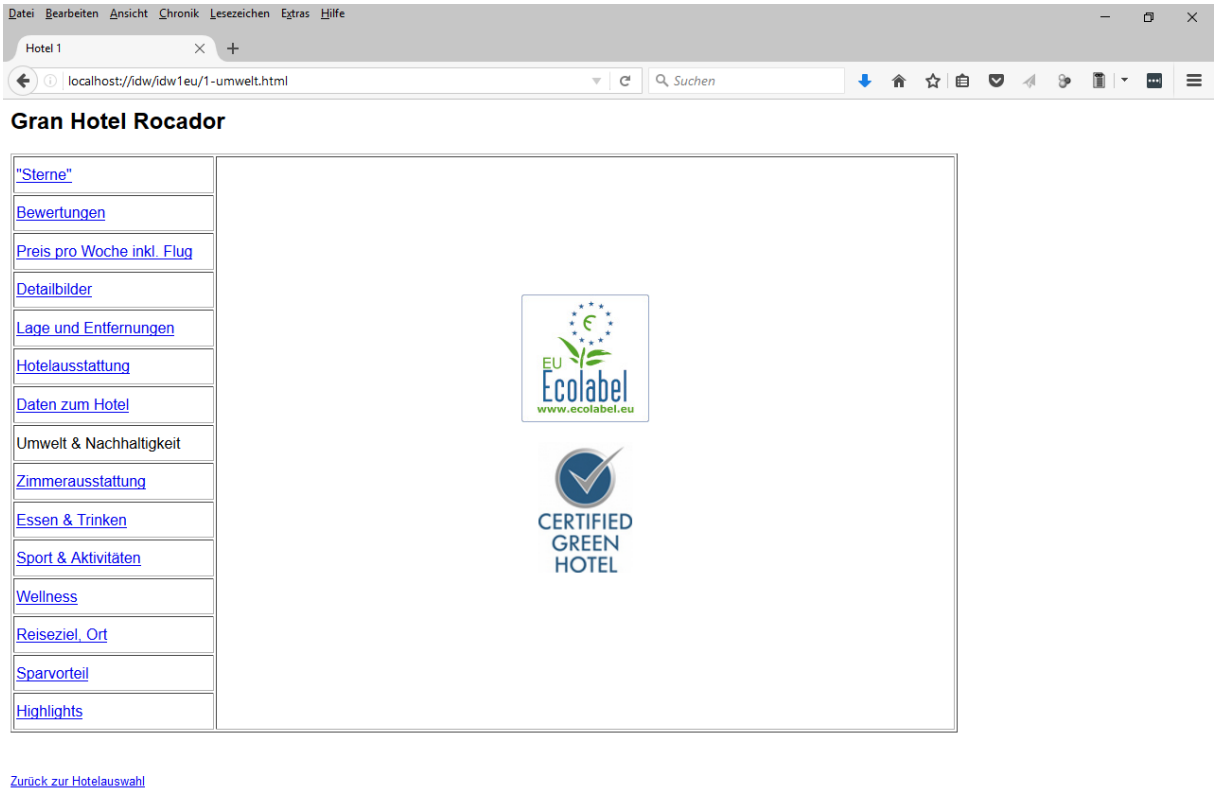

Figure 9: Hotel information page for IDW experiments, category “Environment and Sustainability” selected (set idw1, running at 1280x1024 pixels)

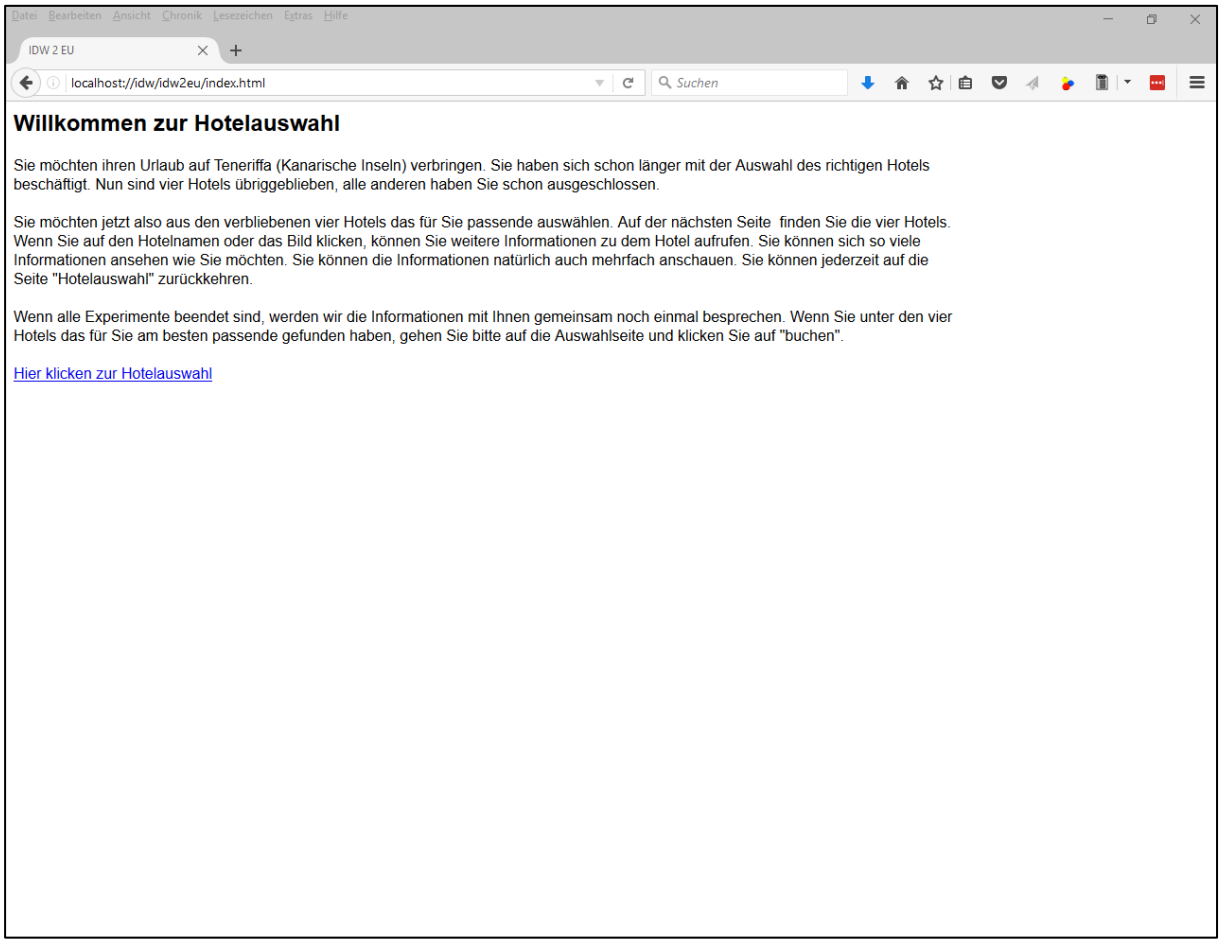

Figure 10: Instruction screen for IDW experiments

8.3 Sustainable tourism products for implicit communication

The following texts were used for the “highlights” category in set idw2 (in set idw1, there were neutral highlights without any relation to sustainability).

Original (German) version	Translation
Ein ganz spezielles Angebot für unsere Gäste: Begleiten Sie einen kanarischen Fischer beim Fischfang mit dem Kutter im Atlantik. Dies ist keine kommerzielle "Angeltour", sondern ein besonderes Angebot mit begrenzten Plätzen. Heute gehört die Fischerei auf Teneriffa zur Tradition. Das war nicht immer so, denn die Ureinwohner Teneriffas, genannt Guanches, waren überaus abergläubische Menschen. Die Folge war, dass sie kaum auf Fischfang gingen, da sie befürchteten, ihnen könnte Unheil durch die Dämonen, die sie im Meer glaubten, widerfahren. Erst 1496, nachdem die Guanches sich lange gegen die Besetzung ihrer Insel gewehrt hatten, nahmen die Spanier das Eiland in ihren Besitz. Und damit begann die Fischerei auf Teneriffa, die bis heute einen wichtigen Wirtschaftszweig der Insel ausmacht. Die Fischer Teneriffas begeben sich schon in der Früh zum Fischfang, bleiben dabei aber meistens in Küstennähe. Wenn sie dann am Vormittag mit ihren Kuttern wieder im Hafen ankommen, werden sie schon von den ortsansässigen Fischhändlern in Empfang genommen. Diese nehmen den frischen Fisch dann direkt vom Fischkutter mit, um ihn an die Restaurants und Hotels Teneriffas zu verkaufen. Leider ist diese Art der Fischerei auf Teneriffa stark gefährdet. Die Fischer müssen jeden Tag mehr um ihre finanzielle Existenz bangen, weil Fabrikschiffe die Fischer billiger anbieten. Erleben Sie deshalb die traditionelle kanarische Fischerei und unterstützen Sie die örtlichen Fischer. Wegen der begrenzten Plätze nur zusammen mit der Hotelreservierung buchbar! Das Hotel setzt außerdem weitgehend auf nachhaltig erzeugte Energie aus Solarstrom. Alle Sozialstandards werden selbstverständlich eingehalten.	A very special offer for our guests: Accompany a Canarian fisher on a fishing trip on the Atlantic ocean. This is not a typical commercial fishing trip, but a very special offer with limited seats available. Today, the fishers' trade has become tradition on Tenerife. This has not always been the case, as the 'Guanches' - the native people of the island, were very superstitious. They did not go on fishing trips, because they feared evil deamons in the sea. In 1496, after a long resistance of the Guanches, the Spanish took possession of the island. Thus started the fishing trade on Tenerife, which is an important economic branch for the island up to today. The fishermen on Tenerife get up and start fishing early in the morning, whereat they stay close to the coast. When they return at the harbour before midday with their boats and the fresh fish, the local traders already await them. The traders take the fish directly from the boat and then sell it to the restaurants and hotels on the island. Unfortunately, this type of fhishing is threatened on Tenerife. The fishers fear for their financial wellbeing, because large commcercial ships offer their fish for lower prices. Experience the traditional local fishing trade and support the Canarian fishers. Because of the limited seats available, this offer is bookable only in combination with the hotel booking. The hotel further commits to sustainable energy sources from solar panels. The social standards for employees are of course complied with.
Folgen Sie dem Ruf „Teno braucht Dich“, um dem Seeigel „diadema antillarum“ zu Leibe zu rücken. Die Seeigel fressen vor der Küste von Punta de Teno alles, was sie bekommen können und hinterlassen eine ökologische Wüste. Zusammen mit der Naturschutzstation an der Punta de Teno sammeln wir die Seeigel vom Meeresgrund. Wenn Sie schon einen Taucherschein haben, können Sie uns sofort bei der Bekämpfung der Seeigel unterstützen. Sie haben keinen Taucherschein und wollen trotzdem aktiv werden? Kein Problem! Innerhalb von	Answer the call "Teno needs you" and tackle the sea urchin "diadema antillarum". The urchins eat up everything they can find at the coast of Punta de Teno and leave behind an ecologic desert. Together with the nature conservation organisation in Punte de Teno, we remove the sea urchins and pick them up from the sea floor. If you already own a diver certification, you can immediately jump in and help us fighting the sea urchin plague. You don't have a diver certification, but you still want to help us? No problem! You can get your certification in the diving school nearby

v	within four days (for a fee) and support us in our fight against the sea urchin. You benefit not only from the view into the spectacular underwater world, but also through the good feeling of having helped the environment. This activity is bookable on site exclusively with our tour operator.
Der Wald auf Teneriffa ist bedroht – wegen einigen Waldbränden in den letzten Jahrzehnten ist der Bestand auf der Insel immens zurückgegangen. Helfen Sie uns dabei, die Wälder im Anaga-Gebirge aufzuforsten. Das Anaga-Gebirge ist auch heute von betörender Schönheit, aber durch Ihre aktive Hilfe können wir den Urzustand gemeinsam wieder herstellen. Bei einem Ausflug in das Gebirge können Sie für nur 10,00 € einen Baum pflanzen und so die Aufforstung unterstützen. Auch eine Spende für die Aktion ist eine gute Möglichkeit, uns bei dem Projekt zu unterstützen. Die Umwelt wird es Ihnen danken. Diesen Ausflug können Sie exklusiv vor Ort bei unserer Reiseleitung buchen. Begrenzte Pätze, kein Anspruch auf Teilnahme.	The forest on Tenerife is endangered – because of the large number of forest fires in the last couple of decades, the forest stand on the island has decreased immensely. Help us reforest the areas in the Anaga mountains. The Anaga mountains are of bewitching beauty up to today, but through your active help, we can manage to recover the original state of the area. During an organised trip through the Anaga mountains, you can plant a tree for only 10,00 € and support our project. The environment will thank you for it. This trip is available for booking on site with our local tour operator. Limited seats, no entitlement to participation.
Im grünen Glücksburg gibt es eine gute Auswahl an Aktivitäten und Attraktionen. Viele davon sind von Natur aus grün: Glücksburg ist von einer vielseitigen Natur umgeben, die man auf unterschiedliche Weise das ganze Jahr über erleben kann. Das Hotel bietet vielseitige besonders nachhaltige Angebote und Aktivitäten an. Im Sommer finden viermal pro Woche Fahrradtouren durch Glücksburg mit dem Ausflugsziel ‚Marienhölzung' statt. Die Marienhölzung ist der letzte Rest eines großen Waldgebietes, das sich im Mittelalter von der Förde bis zur Marsch erstreckte. Der heutige Schwanenteich zeugt als letzter erhaltener Fischteich von der damals hier betriebenen Teichwirtschaft. Durch die Buchung der Fahrradtour unterstützen Sie die Stiftung 'Marienhölzung', die sich für den Erhalt dieses einmaligen Naturgebietes einsetzt.	In the green town of Glücksburg, there is a plethora of activities and attractions. Many of them are naturally green: Glücksburg is surrounded by diverse nature, which you can experience in different ways all over the year. The hotel offers special sustainable services and activities. In summer, a bike tour through Glücksburg towards the "Marienhölzung" is organised four times a week. "Marienhölzung" is the last piece of a large forest area, which reached from the fjord to the marshlands in the Middle Ages. Today, the swan lake is the last preserved fishlake of the fisheries once located here. By booking the bike trip, you support the foundation "Marienhözlung" which campaigns for the preservation of this unique natural area.
„Käse statt Kilometer" lautet das Motto. Wer mit der Bahn anreist oder bei der Ankunft den Autoschlüssel an der Rezeption abgibt, erhält als Dankeschön bei der Abreise ein großes Stück von unserem regionalen Bio-Käse. Außerdem ist dann der offene Parkplatz gratis und in der Tiefgarage kostet der Stellplatz nur 2,50 statt 5,00 Euro pro Tag. Für Ihre Aktivitäten vor Ort erhalten Sie außerdem ein Ticket für die öffentlichen Verkehrsmittel für nur 3, 00 Euro pro Tag! Die Umwelt wird es Ihnen danken.	"Cheese instead of kilometres" is the motto here. If you arrive by train, or hand in your car keys at the reception on your arrival, you receive a big thank you gift in form of a regional piece of organic cheese. Additionally, you get free parking outside on the puplic parking space, and a space in the underground carpark is only 2,50 € instead of 5,00 €. For your activities on site, you can get a ticket for public transport for only 3,00 € a day! The environment will thank you for it.

Die Schleswiger Natur erhalten! Unser natürliches und kulturelles Erbe ist für uns von besonderer Bedeutung. Deswegen bemühen wir uns mit saisonal wechselnden Unternehmungen aktiv, unsere umliegende Natur zu schützen und zu erhalten. Das Löffelkraut und der Engelwurz sind seltene, bedrohte Pflanzenarten, die für die Vogelwelt in unserer Region von großer Bedeutung sind. Bei unseren Nordic Walking Ausflügen zum Resholm-Naturpark im kommenden Sommer können Sie aktiv zum Schutz dieser Pflanzenarten beitragen. Vor dem Ausflug erhalten Sie eine kurze Einweisung in den natürlichen Lebensraum der Pflanzen, sowie ein Säckchen mit Samen, die einfach auf der Erde zerstreut werden können. Dabei kommt es darauf an, die passenden Stellen für die Ansiedlung zu finden - dabei helfen wir Ihnen. Während des Walkings durch die wunderschöne Natur des Reesholm Naturparks können Sie so ganz nebenbei zum Erhalt des natürlichen Gleichgewichts beitragen.	Preserve the nature in Schleswig! Our natural and cultural heritage is of special meaning to us. That's why we make an effort to protect and preserve our surrounding nature with saisonal activities and offers. The scurvygrass and the angelica are two plants which are very endangered and rare, but are also very important to the birdlife in our region. You can become active participating in our nordic walking trips to the Resholm nature park, and can contribute to the protection of these plants. Before the start of the trip, you hear a short introduction to the natural habitat of the plants and receive a small bag with seeds, which you can simply spread on the ground whilst exercising. Here, it is important to find the right spots for the seeds - and we can help you with this. During the trip through the beautiful nature of the Reesholm park, you can help maintain the natural balance en passant.

8.4 Example of IDW raw data format

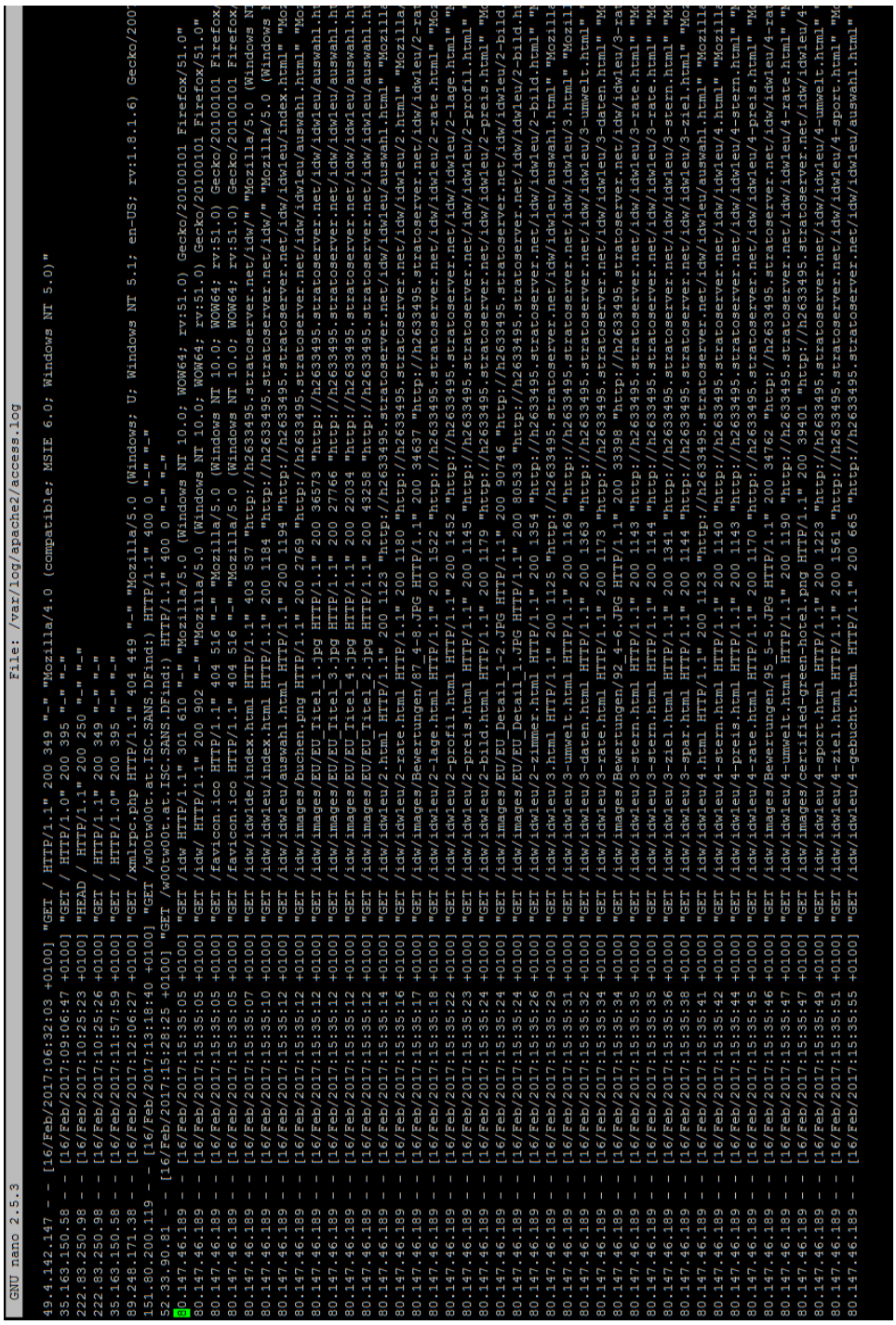

Figure 11: Screenshot from a web log file in Common Logfile Format (as produced by the Apache 2.4 web server). The useful information for the IDW analysis is the timestamp and the path/filename of the file requested. Here, the files are arranged in such a way that the directory name (e.g. idw1eu) stands for the set, the number in the filename for the alternative (2-rate.html holds information on alternative 2) and the text in the filename for the attribute retrieved (2-rate.html holds information on the user rating). Note that in this case, multiple retrievals of the same page (e.g. 3-stern.html) are logged, because caching is prevented.

Table 31: Sample of cleansed and tidied IDW dataset, containing a respondent ID (added manually), set ID (from pathname), condition (from pathname), time (from timestamp), viewing time (calculated from the difference between two timestamps), alternative retrieved (either a number or R for result page) and attribute retrieved (either an attribute name, G for generic, R for result page or B for booked); when ATT = B, this set ends for this respondent

RESPONDENT	SET	COND	TIME	VIEWTIME	ALT	ATT
1	1	EU	15:35:12	3	R	R
1	1	EU	15:35:15	1	1	G
1	1	EU	15:35:16	3	1	RATE
1	1	EU	15:35:19	3	1	LAGE
…						
1	1	EU	15:39:42	5	3	RATE
1	1	EU	15:39:47	5	R	R
1	1	EU	15:39:52		3	B

8.5 Questionnaires (original German version)

8.5.1 Pre-experimental survey

A) STATISTIK

Bitte hier die PROBAND-ID erfassen

S1: Wie alt sind Sie?

- Bitte geben Sie Ihre Antwort(en) hier ein: [Alter in Jahren]

S2: Geschlecht

1. Männlich
2. Weiblich

S3: Sind Sie berufstätig? Bitte wählen Sie nur eine der folgenden Antworten aus:

1. Nein, nicht berufstätig
2. Ja, weniger als halbtags beschäftigt
3. Ja, halbtags beschäftigt oder mehr
4. Ja, ganztags beschäftigt

S4: Wie viele Urlaubs- und Kurzurlaubsreisen haben Sie in den vergangenen 12 Monaten, also 2016/2017, unternommen? Bitte geben Sie Ihre Antwort(en) hier ein:

1. Urlaubsreisen (5 Tage und länger)
2. Kurzurlaubsreisen (2-4 Tage)

S5: Haben Sie in den letzten drei Jahren eine Urlaubsreise/Kurzurlaubsreise zu den folgenden Zielen unternommen? Bitte markieren Sie jedes Reiseziel, das Sie in den letzten drei Jahren im Rahmen einer Urlaubs- oder Kurzurlaubsreise besucht haben.

1. Innerhalb Deutschlands
2. Im Mittelmeerraum (außer Balearen und Kanaren)
3. Balearen oder Kanaren
4. Andere Ziele innerhalb Europas
5. Ziele außerhalb Europas

S6: Können Sie sich vorstellen, in den nächsten drei Jahren eine Urlaubsreise/Kurzurlaubreise zu den folgenden Zielen zu unternehmen? Bitte markieren Sie jedes Reiseziel, für das Sie sich eine Reise vorstellen können.

1. Innerhalb Deutschlands
2. Im Mittelmeerraum (außer Balearen und Kanaren)
3. Balearen oder Kanaren
4. Andere Ziele innerhalb Europas
5. Ziele außerhalb Europas

B) VORBEFRAGUNG

B1: Wie weit treffen die folgenden Sätze für Sie persönlich zu, wenn es um Urlaubsreisen geht? Sie können antworten mit 1 = trifft voll und ganz zu bis 5 = trifft ganz und gar nicht zu. Mit den Werten dazwischen können Sie Ihre Meinung abstufen. *[Items were randomised]*

1. Urlaubsreisen sind mir sehr wichtig
2. Urlaubsreisen interessieren mich sehr
3. Urlaubsreisen sind mir vollkommen gleichgültig
4. Es macht Spaß, in den Urlaub zu fahren
5. In den Urlaub fahren ist ein bisschen so wie sich selbst etwas zu schenken
6. In den Urlaub zu fahren ist eine Freude für mich
7. Man bekommt einen Eindruck von jemandem, wenn man weiß, welche Urlaubsreisen er oder sie macht
8. Es sagt etwas über die Persönlichkeit aus, welche Urlaubsreisen jemand macht
9. Meine Urlaubsreisen sagen anderen etwas darüber, was für eine Art Mensch ich bin
10. Wenn man in den Urlaub fährt, ist es nicht so schlimm, wenn man die falsche Reise aussucht
11. Es ist schon ziemlich ärgerlich, wenn ich nicht den für mich passenden Urlaub aussuche
12. Wenn sich nach dem Urlaub herausstellt, dass ich eine schlechte Wahl getroffen habe, stört mich das

B2: Nun geht es etwas konkreter um ihre Wünsche, wenn Sie Urlaubsreisen unter-

nehmen. Bitte geben Sie wieder an, inwieweit die folgenden Sätze für Sie persönlich zutreffen. Sie können antworten mit 1 = trifft voll und ganz zu bis 5 = trifft ganz und gar nicht zu. Mit den Werten dazwischen können Sie Ihre Meinung abstufen. *[Items were randomised]*

1. Ich organisiere meinen Urlaub am liebsten ganz auf eigene Faust, um unabhängig zu sein und meinen Urlaub möglichst individuell gestalten zu können
2. Ich buche am liebsten eine organisierte Reise, wo Anreise und Unterkunft organisiert sind und in einem Paket zu einem festen Preis angeboten werden
3. Ich buche am liebsten eine Baustein-/Modulreise, wo ich alle Leistungen individuell zusammenstellen und dadurch den Preis beeinflussen kann
4. Mein Urlaub sollte so preiswert wie möglich sein, eine einfache, aber saubere Unterkunft reicht mir vollkommen
5. In meinem Urlaub habe ich es am liebsten richtig luxuriös, auch wenn das nicht ganz billig ist, das gilt auch für meine Unterkunft (z.B. 5 Sterne-Hotels und mehr)
6. In meinem Urlaub bevorzuge ich die Mittelklasse bis Komfortklasse, lebe also weder besonders luxuriös noch besonders sparsam
7. Mein Urlaub soll möglichst ökologisch verträglich, ressourcenschonend und umweltfreundlich sein.
8. Mein Urlaub soll möglichst sozial verträglich sein (d.h. faire Arbeitsbedingungen fürs Personal und Respektieren der einheimischen Bevölkerung).
9. Meine Unterkunft soll barrierefrei sein
10. Ich plane meinen Urlaub im Vorfeld sehr genau
11. Ich habe aufgrund besonderer Bedürfnisse spezielle Anforderungen an die Unterkunft, das Verkehrsmittel usw.

8.5.2 Post-experimental survey

C1: Sie haben ja gerade mehrfach ein Hotel ausgewählt. Dabei standen Ihnen jeweils unterschiedliche Informationen zur Verfügung. Wenn Sie noch einmal alles überdenken: Wie wichtig waren Ihnen die einzelnen Informationen bei Ihrer Entscheidung für ein Hotel? Sie können antworten mit 1 = "sehr wichtig" bis 5 = "ganz und gar nicht wichtig". Mit den Werten dazwischen können Sie Ihre Meinung abstufen. [Items were randomised]

1. Hotelname
2. Sterne
3. Bewertung
4. Preis
5. Bilder
6. Lage und Entfernungen
7. Ausstattung Hotel
8. Hoteldaten
9. Ausstattung Zimmer
10. Essen und Trinken
11. Sport und Aktivitäten
12. Wellness
13. Reiseziel/Ort
14. Sparvorteil
15. Highlights
16. Umwelt und Nachhaltigkeit

C2: Nun geht es noch einmal speziell um Nachhaltigkeit bei Urlaubsreisen, d.h. wie ökologisch verträglich, ressourcenschonend, umweltfreundlich und sozial verträglich der Urlaub gestaltet wird. Wenn Sie einmal an Ihre letzte Urlaubsreise zurückdenken: Welche der folgenden Aussagen trifft auf Sie zu? Bitte wählen Sie nur eine der folgenden Antworten aus:

1. Nachhaltigkeit war das zentrale Entscheidungskriterium bei der Auswahl der Reise
2. Nachhaltigkeit hat den Ausschlag gegeben bei der Entscheidung zwischen sonst gleichwertigen Angeboten
3. Nachhaltigkeit war – neben anderen Dingen – ein Aspekt bei der Gestaltung der Urlaubsreise
4. Nachhaltigkeit hatte bei dieser Urlaubsreise keine Bedeutung
5. Nachhaltiges Reisen interessiert mich generell nicht

C3: **Zum Abschluss geht es noch einmal um Nachhaltigkeit im Allgemeinen, also nicht speziell bei Urlaubsreisen. Wie weit treffen die folgenden Sätze für Sie persönlich zu, wenn es um Nachhaltigkeit geht?** Sie können antworten mit 1 = trifft voll und ganz zu bis 5 = trifft ganz und gar nicht zu. Mit den Werten dazwischen können Sie Ihre Meinung abstufen. [Items were randomised]

1. Es ist mir sehr wichtig, Produkte zu kaufen, die nachhaltiger sind als üblich
2. Nachhaltige Produkte interessieren mich sehr
3. Nachhaltige Produkte sind mit vollkommen gleichgültig
4. Es macht Spaß, nachhaltige Produkte zu kaufen
5. Nachhaltige Produkte zu kaufen ist ein bisschen so wie sich selbst etwas zu schenken
6. Es ist für mich eine Freude, nachhaltige Produkte zu kaufen
7. Man bekommt einen Eindruck von jemanden, wenn man weiß, ob und welche nachhaltigen Produkte er oder sie kauft
8. Es sagt etwas über die Persönlichkeit aus, wenn man weiß, ob jemand nachhaltige Produkte kauft
9. Nachhaltige Produkte zu kaufen sagt etwas darüber aus, was für eine Art Mensch ich bin
10. Wenn man bei nachhaltigen Produkten das Falsche kauft, ist das weniger schlimm als bei anderen Produkten
11. Wenn man bei nachhaltigen Produkten nicht das Richtige kauft, ist das ärgerlicher als bei anderen Produkten
12. Wenn sich nach dem Kauf von nachhaltigen Produkten herausstellt, dass ich eine schlechte Wahl getroffen habe, stört mich das mehr als bei anderen Produkten

Working Paper FINDUS 3: Eye Tracking

This working paper has been accepted to appear as: Schmücker, D., Kuhn, F., & Horster, E. (in publ). Acquiring sustainability information in holiday travel – Results from eye tracking experiments. In Rainoldi, M. & Jooss, M. (Eds.): Eye Tracking in Tourism. Springer

1 Information acquisition and process tracing

A more general introduction into process tracing methods and references can be found in the second working paper of this series (Schmücker, Kuhn, et al., 2017) and will therefore not be repeated here. We can thus focus on eye movement tracking methods as one specific process tracing method.

Eye movement tracking is a non-biotic, task driven form of process tracing, asking respondents to accomplish a directed or non-directed task in a more or less artificial environment such as a laboratory (Langen, 2013).

It came into broader use through the seminal publication by *Alfred Yarbus (1967)*[1] and the subsequent book by *Allen Newell* and *Herbert Simon (Newell & Simon, 1972). H*owever, Yarbus was not the first to use eye movement tracking. *Norman H. Mackworth* developed the "eye-marker camera" in the 1950s (Figure 12), and the German physiologist *Karl Ewald Konstantin Hering* (who lived from 1834-1918) tried to assess the movement of the eyes by listening to the muscle sounds already in the nineteenth century (Hering, 1879). A related methodology is electro-oculography, which measures differences in electric potential at five electrodes placed around the eye. Electricity is also used with scleral coils, where a coil is placed on the eye in such a way that eye movement induces electric currents in the coil (Figure 13).

[1] The book was originally published in 1965 at Nauka in Moscow (Russia) under the title "Роль движений глаз в процессе зрения" ("The role of eye movement in the viewing process")

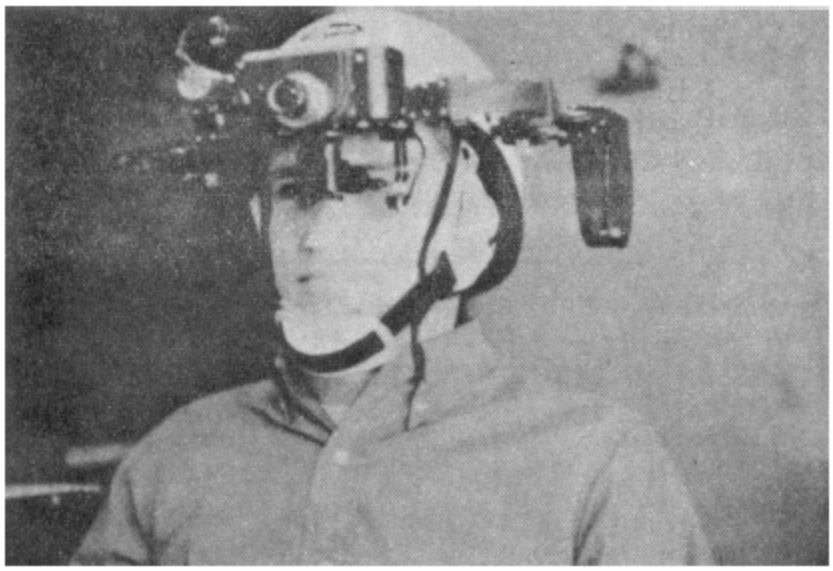

Figure 12: Mackworth Eye Marker Camera (Newell & Simon, 1972, p. 311)

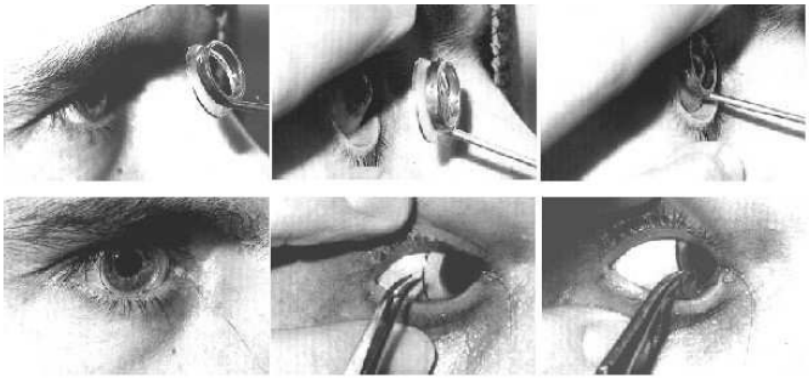

Figure 13: Scleral Coil Application and Remove (Skalar Medical BV, NL-Delft)

Modern eye movement tracking system use the pupil centre corneal reflection (PCCR) technique (Holmqvist et al., 2011). Here, a light source is emitted by the eye tracking device, shedding near infrared light onto the eyes of the participant. This causes a reflection on both the pupil and the cornea of the eye, which can be detected by the built-in camera in the device. Following, the eye tracking software calculates a vector between the corneal and pupil reflections, which results in accurate data on the gaze direction, location and movement of an individual, as 'advanced image-processing algorithms and a physiological 3D model of the eye are then used to estimate the position of the eye in space and the point of gaze with high accuracy' (Tobii Group, 2015). Eye movement tracking has become more popular with the need to analyse gaze-paths on websites and other digital applications In these cases, usually an intuitive and descriptive approach using visual reporting formats (e.g. heatmaps) is employed. With this paper we want to show that eye movement tracking can also be used in an experimentally controlled setting using inferential statistics to analyse the data.

v schule Ihren Tauchschein machen (gegen Gebühr), und uns dann bei dem Schutz der Unterwasserwelt helfen. Sie profitieren nicht nur durch den Einblick in eine spektakuläre Welt, sondern auch durch das gute Gefühl, etwas für die Umwelt getan zu haben. Diese Aktion können Sie exklusiv vor Ort bei unserer Reiseleitung buchen.	within four days (for a fee) and support us in our fight against the sea urchin. You benefit not only from the view into the spectacular underwater world, but also through the good feeling of having helped the environment. This activity is bookable on site exclusively with our tour operator.
Der Wald auf Teneriffa ist bedroht – wegen einigen Waldbränden in den letzten Jahrzehnten ist der Bestand auf der Insel immens zurückgegangen. Helfen Sie uns dabei, die Wälder im Anaga-Gebirge aufzuforsten. Das Anaga-Gebirge ist auch heute von betörender Schönheit, aber durch Ihre aktive Hilfe können wir den Urzustand gemeinsam wieder herstellen. Bei einem Ausflug in das Gebirge können Sie für nur 10,00 € einen Baum pflanzen und so die Aufforstung unterstützen. Auch eine Spende für die Aktion ist eine gute Möglichkeit, uns bei dem Projekt zu unterstützen. Die Umwelt wird es Ihnen danken. Diesen Ausflug können Sie exklusiv vor Ort bei unserer Reiseleitung buchen. Begrenzte Pätze, kein Anspruch auf Teilnahme.	The forest on Tenerife is endangered – because of the large number of forest fires in the last couple of decades, the forest stand on the island has decreased immensely. Help us reforest the areas in the Anaga mountains. The Anaga mountains are of bewitching beauty up to today, but through your active help, we can manage to recover the original state of the area. During an organised trip through the Anaga mountains, you can plant a tree for only 10,00 € and support our project. The environment will thank you for it. This trip is available for booking on site with our local tour operator. Limited seats, no entitlement to participation.
Im grünen Glücksburg gibt es eine gute Auswahl an Aktivitäten und Attraktionen. Viele davon sind von Natur aus grün: Glücksburg ist von einer vielseitigen Natur umgeben, die man auf unterschiedliche Weise das ganze Jahr über erleben kann. Das Hotel bietet vielseitige besonders nachhaltige Angebote und Aktivitäten an. Im Sommer finden viermal pro Woche Fahrradtouren durch Glücksburg mit dem Ausflugsziel ‚Marienhölzung' statt. Die Marienhölzung ist der letzte Rest eines großen Waldgebietes, das sich im Mittelalter von der Förde bis zur Marsch erstreckte. Der heutige Schwanenteich zeugt als letzter erhaltener Fischteich von der damals hier betriebenen Teichwirtschaft. Durch die Buchung der Fahrradtour unterstützen Sie die Stiftung 'Marienhölzung', die sich für den Erhalt dieses einmaligen Naturgebietes einsetzt.	In the green town of Glücksburg, there is a plethora of activities and attractions. Many of them are naturally green: Glücksburg is surrounded by diverse nature, which you can experience in different ways all over the year. The hotel offers special sustainable services and activities. In summer, a bike tour through Glücksburg towards the "Marienhölzung" is organised four times a week. "Marienhölzung" is the last piece of a large forest area, which reached from the fjord to the marshlands in the Middle Ages. Today, the swan lake is the last preserved fishlake of the fisheries once located here. By booking the bike trip, you support the foundation "Marienhözlung" which campaigns for the preservation of this unique natural area.
„Käse statt Kilometer" lautet das Motto. Wer mit der Bahn anreist oder bei der Ankunft den Autoschlüssel an der Rezeption abgibt, erhält als Dankeschön bei der Abreise ein großes Stück von unserem regionalen Bio-Käse. Außerdem ist dann der offene Parkplatz gratis und in der Tiefgarage kostet der Stellplatz nur 2,50 statt 5,00 Euro pro Tag. Für Ihre Aktivitäten vor Ort erhalten Sie außerdem ein Ticket für die öffentlichen Verkehrsmittel für nur 3, 00 Euro pro Tag! Die Umwelt wird es Ihnen danken.	"Cheese instead of kilometres" is the motto here. If you arrive by train, or hand in your car keys at the reception on your arrival, you receive a big thank you gift in form of a regional piece of organic cheese. Additionally, you get free parking outside on the puplic parking space, and a space in the underground carpark is only 2,50 € instead of 5,00 €. For your activities on site, you can get a ticket for public transport for only 3,00 € a day! The environment will thank you for it.

two different formats, the difference in the two formats coming from the specification of the independent variable (Table 33). In sets 1 and 2, the independent variable was the information contained in the stimuli. In set 1, half of the stimuli were equipped with sustainability labels, the other half had more neutral labels. In set 2, one half of the stimuli exhibited sustainability labels, while the other half had no labels at all. In set 3, the independent variable was the instruction: Respondents were asked to choose the “best offer” vs. the “most sustainable offer”.

The stimuli for the three sets were taken from real world travel websites available in the German market (firstly, the German version of booking.com; secondly, the booking site of the German Thomas Cook subsidiary Jahn Reisen, jahnreisen.de; thirdly, the German version of the booking site opodo.de). More specifically, we used screenshots of the search results page from the three websites. Each screenshot showed three products (in sets 1 and 2) or detailed information about one product (in set 3). These three websites were chosen because they actually show sustainability information also in the real world (see working paper FINDUS 1; Schmücker, Kuhn, et al., 2016).

To analyse each of the screenshots (stimuli), one or more areas of interest (AOI) were defined. AOIs are those spots on the screenshot which are of particular interest for this research, e.g. the sustainability labels and the neutral labels in set 1.

Table 33: Three sets of eye tracking experiments

Set No.	Real world example used	Independent variable
1	booking.com	Information: Sustainability information vs. Neutral information
2	jahnreisen.de	Information: Sustainability information vs. No sustainability information
3	opodo.de	Instruction: “Best offer” vs. “Most sustainable offer”

2.1.1 Set 1

For the first set, which investigated the independent variable ‘available sustainability information’, ten screenshots (stimuli) derived from the website ‘booking.com’ were prepared for data collection. Each stimulus presented three accommodation offers, and each offer was equipped with one AOI, resulting in a total of 30 AOIs for data analysis (Figure 14).

Table 34: Properties of eye tracking stimuli (set 1)

Website: booking.com	Independent variable: Type of added information	AOIs	Stimuli	Total number of AOIs
Search result page	Sustainability information	Carbon footprint, green-leaf ranking, climate protection activist	5 screenshots	15 (3 per screenshot)
Search result page	Neutral information	Mallorca label, sports ranking, best price guarantee	5 screenshots	15 (3 per screenshot)

The first sequence allows for a comparison of respondents' visual attention towards a sustainability information set by side to a neutral information which is rather void of relevant content. The chronology of stimuli was arranged so that respondents would alternately look at one stimulus with sustainability information, and one stimulus with neutral information. Respondents were instructed to look at the offers the same way they would do it at home and name the offer that they like best.

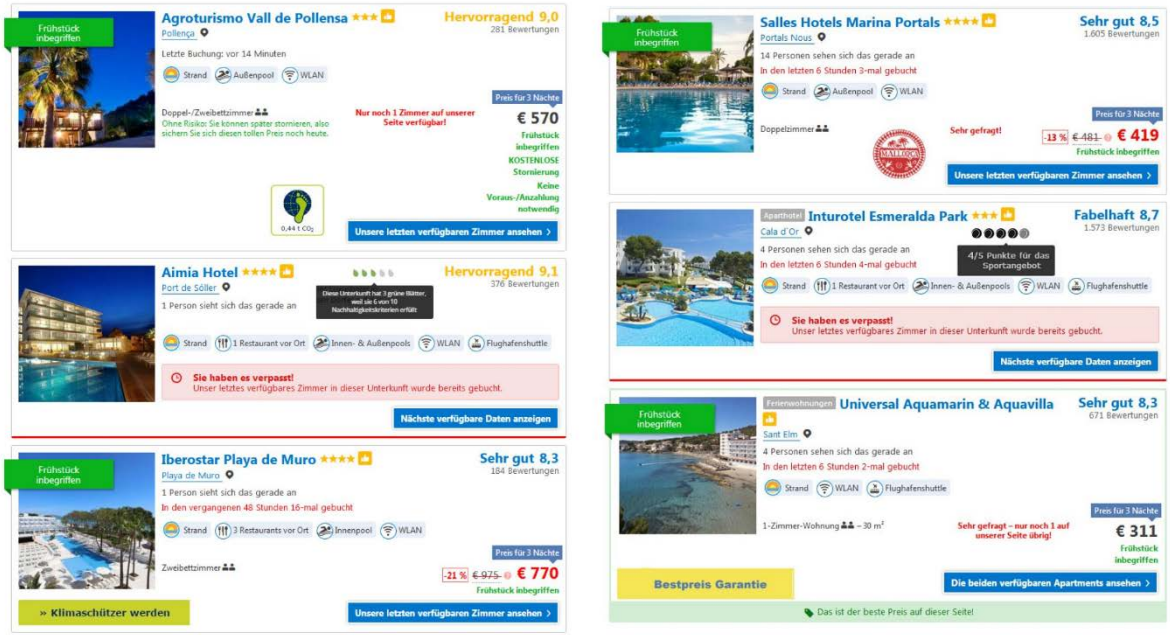

Figure 14: Example stimuli for set 1 with sustainability information (left) vs. neutral information (right).

2.1.2 Set 2

The second eye tracking sequence also examined the independent variable of 'available sustainability information', for which twelve screenshots derived from a search result page of 'jahnreisen.de' were prepared. Again, three offers per stimulus were presented, whereat only half of the stimuli obtained sustainability information.

Table 35: Properties of eye tracking stimuli (sequence2)

Website: jahnreisen.de	Independent variable: Type of sustainability information	AOIs	Stimuli	Total number of AOIs
Search result page	Sustainability information available	Ecolabels (EU-Ecolabel, FairtradeTourism label, Atmosfair label, Ecocertified tourism), name and place, description, details, price, photos	6 screenshots	96
Search result page	No sustainability information available	Name and place, description, details, price, photos	6 screenshots	78

Accordingly to set 1, instructions were to look at the offers the same way they would do it at home and name the offer that they like best. This sequence allows for an analysis of respondents' visual attention towards the different types of information identified in working paper FINDUS 2 (Schmücker, Kuhn and Günther, 2017) in comparison to sustainability information.

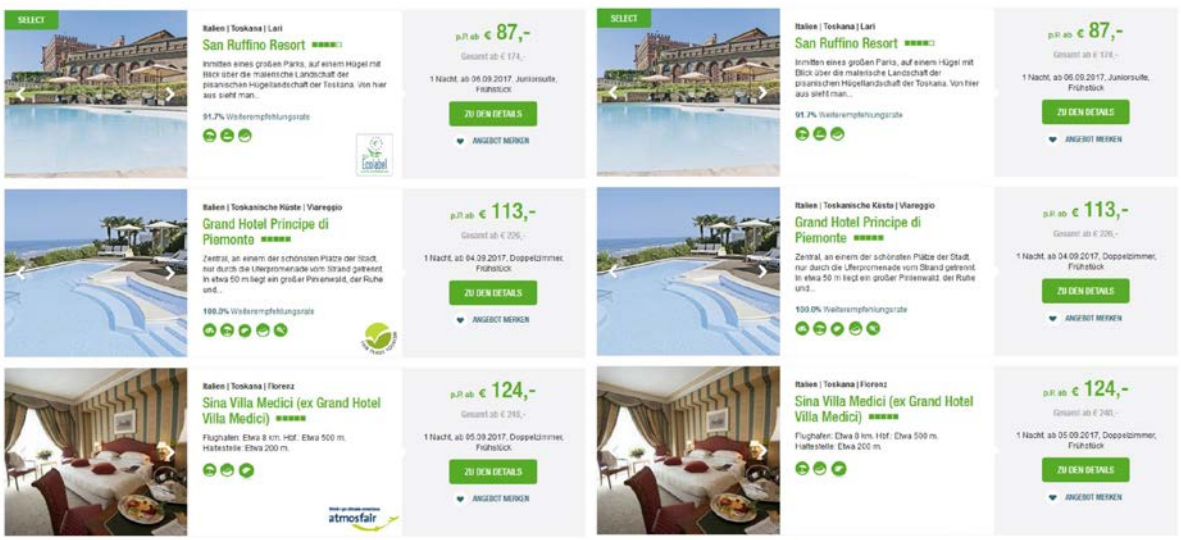

Figure 15: Example stimuli for set 2 with sustainability information (left) vs. no additional information (right).

2.1.3 Set 3

The third sequence of the eye tracking experiments dealt with the second independent variable of 'instruction'. Here, a number of three accommodation offers with sustainability information were shown to respondents in two runs with different instructions. Due to the technical restrictions of the eye tracking software, each offer had to be divided into individual screenshots so that each offer was divided into two relevant stimuli for data analysis.

Table 36: Properties of eye tracking stimuli (sequence3)

Website: opodo.de	Independent variable: Type of instruction	AOIs	Stimuli	Total number of AOIs
Specific accommodation offer	'Best' offer (personal opinion)	Carbon footprint label, ecolabels, implicit information (text), summary of sustainability performance	6 screenshots	20
Specific accommodation offer	Most sustainable offer (personal evaluation)	Carbon footprint label, ecolabels, implicit information (text), summary of sustainability performance	(same stimuli as above)	20

We extracted specific accommodation offers from the website 'Opodo.de', as opposed to the first two sequences which focused on result pages. Different types of sustainability information were added to the stimuli as shown in table Table 36. First, the instruction was for respondents to look at the offers and select the one that they like best. Second, they were instructed to look at the same offers again and identify the offer they evaluate as the 'most sustainable'.

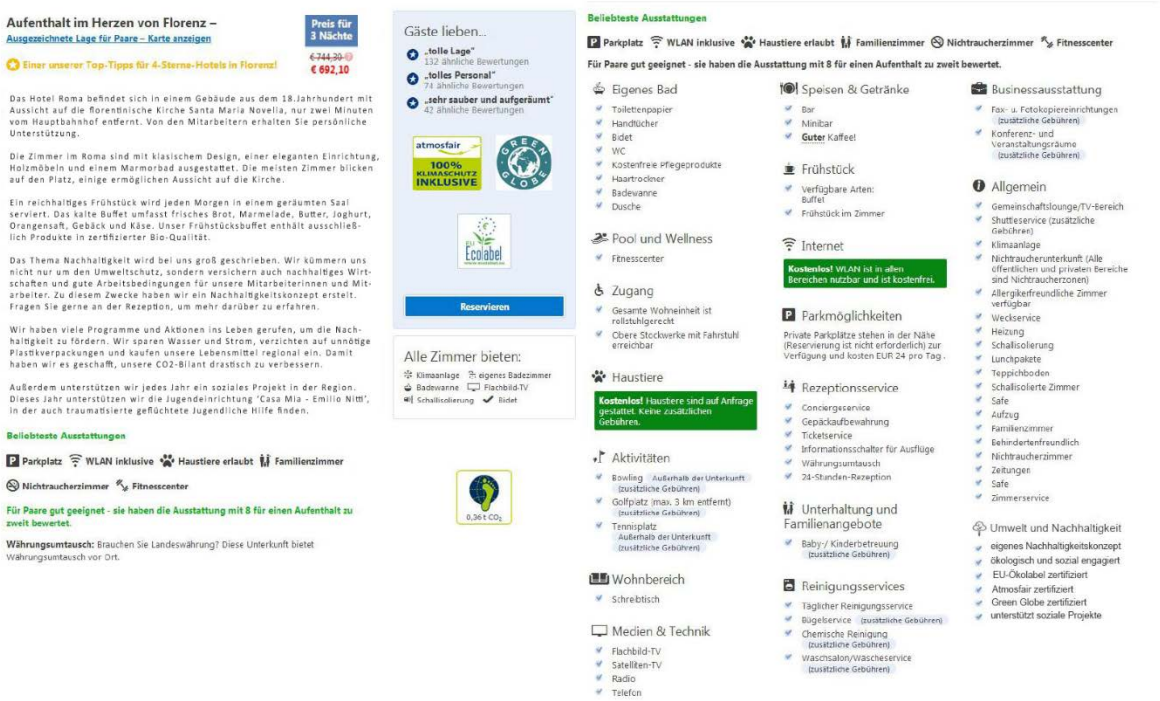

Figure 16: Example stimuli for set 3 (identical for both conditions).

2.1.4 Pre- and post-experimental questionnaires

The pre-experimental questionnaire enquired the demographics and other structural data of the sample, as well as respondents' involvement with holiday travel in accordance to Laurent and Kapferer's Consumer Involvement Profile (1986), and their attitudes toward different aspects of holiday travel derived from the annual Reiseanalyse (Schmücker, Grimm, et al., 2016).

After the eye tracking experiments were completed, respondents were asked to fill in a post-experimental questionnaire. Here, their involvement with sustainable products was enquired using the same standardized scale as in the pre-experimental questionnaire (Kapferer & Laurent, 1986). Further, the respondents' attitude towards sustainable development according to Frate and Biasutti's (2017) scale was enquired. This relatively new scale was developed with regards the new environmental paradigm (NEP) ((Dunlap & Van Liere, 1978; Dunlap, Van Liere, Mertig, & Jones, 2000; Fleury-Bahi, Marcouyeux, Renard, & Roussiau, 2015; Lundmark, 2007) and the UNESCO framework of sustainability (UNESCO, 2005).

2.2 Data collection and data analysis

2.2.1 Data collection

Data were collected in the month of July 2017 in Hamburg. 41 respondents were recruited by a professional recruitment service and were invited to a centrally located studio. Each respondent received a monetary incentive of EUR 30. The results of eight respondents could not be used because recording of eye movement did not work properly due to the physiological form of eyelids etc. Thus, 33 respondents produced usable recordings for data analysis.

The data collection was accomplished by using a Tobii X2-30, working at 30 Hz, together with the data collection software Tobii Studio 3.4.7. Stimuli were presented on a portable computer with standard screen resolution. The X2-30 system's main advantage is that the respondents do not need to wear any equipment such as helmets or glasses, which would restrict movement and affect the natural gaze direction. Rather, all the technical equipment needed is built into a little black box placed below the screen of the laptop. Thus, the respondents' gaze was not affected by the equipment used in this study, and naturally occurring eye movements were measured.

Raw data were aggregated also by using the Tobii Studio 3.4.7. software for eye movement tracking data. Further, an online survey tool was used to collect demographic data as well as data regarding respondents' attitude towards and involvement with sustainable products and holiday travel in general.

2.2.2 Data analysis

For the main hypotheses, we used a within-subjects design with each subject going through three sets of experiments. Two conditions were used in each of the three experimental sets. Consequently, we tested for within-subject differences between conditions using t-tests for paired samples. Because independent variables change between the sets, each set can be treated as a new experiment. Therefore, inflation of alpha error is not an issue and Repeated Measurement ANOVA would not be suitable for this kind of analysis (Girden, 1992).

For the moderating variables (attitude, involvement), we split the groups using a median split and subsequently used independent samples t-tests (because now we do no longer report on the differences between two states of the same person, but rather on the differences between two groups of persons).

For testing in the within-subject designs, we used Student's T-test applied for paired samples, if assumptions on normality using Shapiro-Wilks' test (Shapiro & Wilk, 1965) were met, and Wilcoxon's rank-sum test (Wilcoxon, 1945) if assumptions on normality were violated. For additional hypotheses testing between groups under the same condition, we used Welch's T-test (Welch, 1947) if assumptions on normality were met and the Mann-Witney-Test (Mann & Whitney, 1947) if not. We did not use Student's T-Test, because Welch's T-test is robust against inequality of variances (Delacre, Lakens, & Leys, 2017).

For statistical testing and principal component analysis of the CIP scales we used JASP 0.8.6 (JASP Team, 2018) (which in the background uses R for statistical computations), and double-checked all results with IBM SPSS Statistics for Windows.

As Bayesian statistics momentarily gains more widespread usage (Etz & Edelsbrunner, 2016; Etz & Vandekerckhove, 2017), and is described as the superior form of hypotheses testing by its supporters (Dienes, 2011; Dienes & Mclatchie, 2017; Morey, Romeijn, & Rouder, 2016) we did not only rely on classical ("frequentist" or "orthodox") statistical methods, but double-checked our main results with Bayesian statistical methods readily available in JASP (JASP Team, 2018; Morey & Rouder, 2015; Rouder, Speckman, Sun, Morey, & Iverson, 2009).

Without digging too deep into the mathematical differences between the two schools, there are a number of relevant advantages to Bayesian approaches compared to classical testing, among them invariance against pre-or post hoc theory formulation, invariance against multiple testing and invariance against rejecting vs. accepting the null hypotheses, which is of major importance in classical testing (Dienes, 2011; Van de Schoot et al., 2014, p. 844, Table 1; Wagenmakers, Marsman, et al., 2017, Table 1).

We report the Bayes factor (as suggested by Dienes & Mclatchie, 2017), recurring to values of approximately 1, 3, 10, 30 and 100 indicating no, weak/anecdotal, moderate, strong and very strong evidences, respectively (Rouder, 2014; Wagenmakers, Love, et al., 2017, Table 1). The Bayes factors represent the posterior odds of one hypothesis vs. the other. E.g., BF01 represents the posterior odd for H0 compared to H1 or, more precisely, the probability for H0 given the data divided by the probability for H1 given the data (Rouder et al., 2009). A BF01 of 10 would mean: The observed data are ten times more likely to occur under the null hypothesis than under the alternative hypothesis. BF10 would then be the inverse of BF01. All Bayesian analyses in this paper used a Cauchy distribution prior with a width of 0.707 (JASP default), unless otherwise specified. The recommended prior distribution width of 0.707 leads to lower BF values and thus is more cautious or conservative compared to the original suggestion for a value of 1 (Jeffreys, 1961). Readers interested in reading and interpreting JASP outputs with reference to Bayesian statistics are referred to recent papers by the JASP developers (Wagenmakers, Love, et al., 2017; Wagenmakers, Marsman, et al., 2017).

As dependent variables (indicators), we used the following indicators:

- FC (Fixation Count): The number of fixations touching the area(s) of interest (AOI), absolute values and in percent of the total;
- FD (Fixation Duration): The length of fixations touching the area(s) of interest, absolute values (in seconds) and in percent of the total.

A *fixation* is defined as the eye's rest of 60 milliseconds (ms) and more on a given spot. Tobii's software also produces a different metric, called "visit", which encompasses all "touchpoints" of the gaze path in relation to the AOI. We did not use the "visit" metric because we are mainly interested in those fixations with a chance of leading to conscious perception on the side of the respondent.

Areas of interest (AOI) are those areas displaying the relevant information. The AOI boundaries were, of course, not visible to the respondents.

2.3 Respondent profiles

The following paragraph is dedicated to the demographic descriptive statistics of respondent profiles. We have an established sample of 33 persons who are showing high involvement with holiday travel, but only moderate involvement with sustainable products in general. Attitudes towards sustainable holiday travel are slightly more negative than found in the population. Although, as a general rule, respondents do not reject sustainable alternatives, and sustainability appears to play a certain role in holiday and non-holiday choice processes, these respondents cannot be expected to actively search for sustainable options in choosing their holiday hotel. Obviously, inter-individual differences exist between respondents, which will be addressed later.

These results were anticipated in advance and are in line with the main target group of the whole study (Günther et al., 2014).

2.3.1 Structural data

Structural key data on age, sex, and employment status and holiday travel activities of the respondents can be compared to the German-speaking population. Table 13 shows that age and sex distribution in our sample come reasonably close to the values in the population. In the sample, however, there are fewer persons who are currently not employed and, as a consequence, the number of long and short holiday trips is higher compared to the overall population.

Table 37: Structural data, FINDUS sample vs. German population

	Respondents	Holidaymakers booking online 2016	Holidaymakers Mediterranean 2014-16
N	33	2,112 (19.0 mill.)	3,282 (29.6 milll.)
Male, %	55%	53%	50%
Age (avg.)	41.2	41.1	43.5
Employment status, %			
Full-time	64%	54%	55%
Part-time	24%	15%	13%
Not employed	12%	31%	32%
Average number of trips, last 12 months			
Holiday trips (5 days and more)	3.0	1.4	1.2
Short holiday trips (2-4 days)	3.9	1.1	1.0

Source for population data: Reiseanalyse 2017, © Forschungsgemeinschaft Urlaub und Reisen e.V.

2.3.2 Involvement with holiday travel and sustainable products

Involvement profiles were collected for “holiday travel” (pre-experiment survey) and “sustainable products” (post-experiment survey) using a shortened version of Laurent & Kapferer’s (1986) CIP. Results show that respondents are highly involved with holiday travel, but only moderately involved with sustainable products. On a five-point involvement scale, average scores can range from 1 (highly involved) to 5 (not at all involved). Table 14 shows that involvement scores for holiday travel had a sum score of 20.27 (SD = 6.16) on a scale of 12 to 60, involvement scores for sustainability a sum score of 27.73 (SD = 3.96). Wilcoxon’s rank sum test is highly significant ($W=508.5$, $p<.001$). The structure and level of answers are largely comparable to those from the respondents in the FINDUS IDM/IDW experiments (Schmücker, Kuhn, et al., 2017).

Table 38: Average CIP involvement scores

Dimension	Involvement items	Holiday trips (ex-ante survey)	Sustainable products (ex-post survey)	p
Interest	I1 … are important to me	1.33	2.00	**<.001**
	I2 … interest me a lot	1.12	1.97	**<.001**
	I3 … leave me completely indifferent (reverse)	1.22	1.61	**.022**
Pleasure	P1 It is fun to take/use …	1.09	1.73	**<.001**
	P2 Taking/using … is a bit like giving a gift to ourselves	1.46	2.39	**<.001**
	P3 It is pleasure for me to take/use …	1.15	2.09	**<.001**
Sign	S1 You get an impression of someone depending on if/how he uses …	2.30	2.46	.429
	S2 It tells about the personality if/how someone uses …	2.00	2.42	.031
	S3 It tells others about what type of person I am using …	2.36	2.67	.125
Risk	R1 It is no problem when you choose the wrong … (reverse)	1.79	2.54	**.004**
	R2 It is annoying to choose the wrong …	2.18	3.30	**.002**
	R3 If one realises that one has chosen the wrong … it is disturbing	2.36	2.55	.547
	Score	20.27	27.73	.**000**

Numbers are means from a scale of 1 = Completely agree through 5 = Completely disagree; p values are from paired samples t-tests using Wilcoxon signed rank test; item order was randomised during the interviews

Further, results show that the majority of respondents is only moderately concerned with sustainability issues when taking a holiday trip (and even less with ecological aspects compared to social aspects). Most involvement scores are significantly higher (i.e. smaller numbers) for holiday trips compared to general sustainable products. This is true for all items except the sign values and risk value 3.

2.3.3 Attitudes towards sustainable holiday trips

Firstly, the respondents' attitude towards sustainable development in general was enquired using the German translation of a standardized scale (Biasutti & Frate, 2017). This relatively new scale was developed with regards to the new environmental paradigm (NEP) (Dunlap & Van Liere, 1978; Dunlap, Van Liere, Mertig, & Jones, 2000; Fleury-Bahi, Marcouyeux, Renard, & Roussiau, 2015; Lundmark, 2007). The scale has 15 items with pseudometric values 1 through 5, with value 1 indicating "completely agree", and 5 indicating "completely disagree". Results show that respondents have a positive attitude towards the three dimensions of sustainability (all values are below the theoretical mean of 3.0), without reaching into extremes (Table 39).

Table 39: Sample results for a NEP-type scale

Dimension	Item	Mean	SD
Environment	1. When people interfere with the environment, they often produce disastrous consequences	1.76	0.97
	2. Environmental protection and people's quality of life are directly linked.	1.64	0.82
	3. Biodiversity should be protected at the expense of industrial agricultural production.	1.84	0.71
	4. Building development is less important than environmental protection.	2.73	1.57
	5. Environmental protection is more important than industrial growth.	2.06	.90
Economic	6. Government economic policies should increase sustainable production even if it means spending more money.	1.39	0.70
	7. People should sacrifice more to reduce economic differences between populations.	1.39	0.61
	8. Government economic policies should increase fair trade.	1.49	0.80
	9. Government economic policies should act if a country is wasting its natural resources	1.49	0.80
	10. Reducing poverty and hunger in the world is more important than increasing the economic well-being of the industrialised countries.	1.76	0.79
Social	11. Each country can do a lot to keep the peace in the world.	1.52	0.71
	12. The society should further promote equal opportunities for males and females.	1.76	0.97
	13. The contact between cultures is stimulating and enriching.	1.36	0.60
	14. The society should provide free basic health services.	1.46	0.62
	15. The society should take responsibility for the welfare of individuals and families.	1.67	0.74

Pseudometric scale, 1 "completely agree" through 5 "completely disagree"

Additionally, attitudes towards eleven aspects of holiday travel were collected using a standardized scale from the German Reiseanalyse (Schmücker, Grimm, et al., 2017). It covers questions about attitudes towards, among others, booking and packaging, pricing, and special needs during a holiday. Two of the items cover ecological and social aspects of sustainability. Using this standardized scale for attitude measures prevents priming of respondents and reduces social desirability bias. Table 15 shows that the members of our sample have a slightly more negative attitude towards these aspects compared to the overall population.

Table 40: Attitudes towards sustainability aspects in holiday travel

	Respondents (%)	Holidaymakers booking online 2016	Holidaymakers Mediterranean 2014-16
N	33	2,112 (19.0 mill.)	3,282 (29.6 milll.)
My holiday trips should be as ecologically compliant, resource-efficient and eco-friendly as possible			
1 – Completely agree	15	20	20
2	30	33	29
3	21	34	37
4	27	10	10
5 – Completely disagree	6	4	3
My holiday trips should be as socially compliant as possible (…)			
1 – Completely agree	21	23	24
2	46	37	33
3	21	32	33
4	12	7	7
5 – Completely disagree	0	2	2
TOP 1: Completely agree (for one or both items)	27		
TOP 2: Agree (for one or both items)	67		
TOP 2, but not TOP 1	39		

Numbers are percentages; Data on the two aspects shown were collected within a frame of nine other attitude items not related to sustainability issues. Source for population data: Reiseanalyse 2017, © Forschungsgemeinschaft Urlaub und Reisen e.V.

Furthermore, we asked our respondents a factual question about the importance of sustainability for their last holiday trip. For this question, we can use reference data from the German-speaking population from the Reiseanalyse 2014. The comparison is, however, slightly skewed because the original question was longer and therefore, the two columns on the right of Table 16 do not add up to 100%. The table shows, however, that the percentages for the first two items are comparable, while the last item “not at all interested in sustainable travel", has considerably lower values in the FINDUS sample compared to the population.

Table 41: Importance of sustainability for the last holiday trip

	Respondents	Holidaymakers booking online 2016	Holidaymakers Mediterranean 2014-16
N	33	2,112 (19.0 mill.)	3,282 (29.6 milll.)
Sustainability was the key criterion	0	2	2
Sustainability turned the balance because offers were equivalent in other aspects	9	2	1
Sustainability was one aspect among others	36	11	9
Sustainability was of no importance for that particular holiday trip	55	28	25
I am not at all interested in sustainable travel	0	27	28

Numbers are percentages. Source for population data: Reiseanalyse 2014, © Forschungsgemeinschaft Urlaub und Reisen e.V.

In addition to the results reported here, further analyses can be found in the thesis of one of the co-authors (Kuhn, 2017).

3 Results

3.1 Overview of hypotheses

The experimental setup was chosen based on the following hypotheses:

- H1(zero case): Sustainability information clues are not viewed more frequently or longer compared to the same format with other (neutral) clues present (to be tested on set 1).
- H2 (attitude): Sustainability information cues are viewed more frequently or longer if attitude towards tourism sustainability is positive (to be tested on set 1).
- H3 (availability): Visual attention towards other types of information decreases with the availability of sustainability information (to be tested on set 2)
- H4 (instruction): Sustainability information clues are viewed more frequently or longer if the respondent is instructed to choose the most sustainable alternative compared to the neutral instruction (to be tested on set 3).
- H5 (instruction-attitude): The instruction effect from H4 will be intensified if attitude towards tourism sustainability is positive (to be tested on set 3).

As additional moderating variables we enquire the attitude towards sustainability and the involvement with sustainable products. We hypothesize, that a more positive attitude towards sustainability and a higher involvement with sustainable products lead to viewing sustainability information clues more frequently or longer, while involvement with holiday travel does not. To separate attitude and involvement groups, we use a median split.

3.2 H1 (zero case)

H1(zero case): Sustainability information clues are not viewed more frequently or longer compared to the same format with other (neutral) clues present (to be tested on set 1).

In set 1, mean fixation counts and mean fixation duration regarding the presented stimuli overall do not differ highly between the two conditions of sustainability labels vs. neutral labels. Stimuli with sustainability labels were fixated on with a mean of 247.2 times and mean fixation duration of 63.2 seconds. Stimuli with neutral labels were fixated on with a mean of 237.5 times and mean fixation duration of 59.8 seconds. This shows that respondents vary a lot regarding the time they require for information intake, however the presence of sustainability information does not appear to have an impact on the fixation counts and duration on overall stimuli.

Table 42: Descriptive results of fixations on stimuli (set 1)

Metric	Condition 1. Sustainability labels				Condition 2: Neutral labels				Paired Samples T-value	Two-sided p	Two-sided BF_{10}
	Min.	Max.	Mean	SD	Min.	Max.	Mean	SD			
Fixation Count (total)	64	622	247.2	137.4	64	628	237.5	135.4	0.909	.370	0.273
Fixation Duration (total)	8.51	181.36	63.2	40.1	8.63	184.59	59.8	38.8	1.183	.245	0.353

Further, the fixation counts and durations on the AOIs were measured more specifically. Overall, respondents have fixated on AOIs concerning sustainability labels with a mean of 7.1 times and mean fixation duration of 2.0 seconds across the five stimuli. Concerning AOIs appointed on neutral labels, respondents have fixated with a mean of 6.3 times and mean fixation duration of 1.7 seconds across the presented stimuli. This shows that sustainability labels were fixated slightly more often and slightly longer compared to labels displaying neutral information.

Given the relatively large amount of available information on the screenshots and based upon the results of the IDM/IDW studies we do not assume to have higher, or at all different, rates for the sustainability labels compared to neutral labels.

Table 43: Paired samples test results for fixations on the “labels” AOI in set 1

Metric	Condition 1: Sustainability labels		Condition 2: Neutral labels		Paired Samples W-value	Two-sided p	Two-sided BF_{01}
	Mean	*SD*	Mean	*SD*			
Fixation Count	7.06	*5.60*	6.33	*5.81*	297.5	.182	2.42
Fixation Duration	1.99	*2.04*	1.67	*1.89*	381.0	.074	1.39
Fixation Count %	2.58	*1.41*	2.39	*1.44*	326.0	.426	4.22
Fixation Duration %	2.66	*1.85*	2.35	*1.56*	333.0	.358	3.38

None of the classical tests yields significant results. However, it must be noted that we tested for the alpha error with the assumption that the null hypothesis (H_0) represents identical means between the two groups. *Not rejecting* the H_0 is quite different from *accepting* the H_0 in the classical (frequentist) paradigm, or, as attributed to Ronald A Fisher, 'null hypotheses are only to be rejected and never accepted' (Meehl, 1978).

Therefore, we took the same data for a test using Bayesian inferential statistics. In the Bayesian paradigm, both perspectives can be taken: Support for H_1 compared to H_0 would be indicated by a large Bayes factor BF_{10}, while support for H_0 compared to H_1 would be expressed by a large Bayes factor $BF_{01,}$ (Etz & Vandekerckhove, 2017; Rouder et al., 2009). Note that the last column in Table 43 shows the BF_{01} (not BF_{10}), thus the factor in favour of the H_0 (not the H_1). From the results, we find a very weak support for the H_0 (e.g., fixation count results are 2.4 times more likely under the H_0 than under the H_1), i.e. some support for our assumption, that in terms of visual perception there really is no difference in displaying sustainability labels or some other labels instead.

3.3 H2 (attitude)

H2 (attitude): Sustainability information cues are viewed more frequently or longer if attitude towards tourism sustainability is positive (to be tested on set 1).

In order to test the visual attention towards sustainability information against the a-priori attitude toward sustainability, we used the attitude scale reported in Table 15. Group 1 was with a positive attitude (either ecologically or socially on the points 1 or 2 of the 5-point scale), group 2 was with no positive attitude. Group 1 was two thirds of the sample, group 2 was one third of the sample.

3.3.1 Fixation counts

A repeated measures ANOVA with a between subjects factor was used, with the two conditions as repeated measures and the two attitude group as between subject factor. Although means of fixation counts for sustainability labels in the positive-attitude group are higher than in the low-attitude group, this is also true for the non-sustainability labels (Table 44). Thus, splitting the respondents in two groups does not add much information to the measurements. Consequently, the analysis yielded an F ratio of only $F(1,31) = 0.096$, $p = .759$.

Table 44: Repeated measures ANOVA for attitude groups (fixation counts)

Fixation Count	Percentage of respondents	Condition 1 (Mean of AOI "labels")	Condition 2 (Mean of AOI "labels")
Positive attitude towards sustainability (Top 2)	67	7.23 (SD=5.91)	6.59 (SD=6.12)
No positive attitude towards sustainability	33	6.73 (SD=5.16)	5.82 (SD=5.21)
All respondents	100	7.06	6.33

3.3.2 Fixation duration

As to fixation duration on the “labels” AOI, we find no significant difference in a repeated measures factorial ANOVA with the two conditions as repeated measures cell and the two attitude groups as between subject factors. Although again mean values in the positive attitude group are higher for sustainability labels, they are also higher for the neutral labels, compared to the non-positive attitude group. The mean difference on this main effect yielded an F ratio of F(1,31) = 0.202, p = .656 (Table 45).

Table 45: Repeated measures ANOVA for attitude groups (fixation duration)

Fixation Duration	Percentage of respondents	Condition 1 (Mean of AOI “labels”	Condition 2 (Mean of AOI “labels”)
Positive attitude towards sustainability (Top 2)	67	2.13 (SD=2.25)	1.74 (SD=2.11)
No positive attitude towards sustainability	33	1.72 (SD=1.59)	1.52 (SD=1.43)
All respondents	100	1.99	1.67

3.4 H3 (availability)

H3 (availability): Visual attention towards other types of information decreases with the availability of sustainability information (to be tested on set 2)

In set 2 we wanted to see, if and where visual perception rates for non-sustainability information go down if a sustainability label is added.

3.4.1 Fixation counts

First, we checked for the differences between the two conditions regarding the fixation counts on AOIs. With a mean of 267.36 fixations, condition 1 exhibiting sustainability labels is fixated on slightly more often than condition 2 without any labels with a mean fixation count of 254.79. The fixation counts on details, price, and name and place are higher when sustainability labels are displayed. Further, fixation counts on descriptions and photos appear to be lower when sustainability information is available.

Table 46: Descriptive results of fixation counts on AOIs (set 2)

Fixation Counts	Condition 1: With Ecolabels				Condition 2: No additional labels			
	Min.	Max.	Mean	*SD*	Min.	Max.	Mean	*SD*
Ecolabels *	0	14	4.58	*4.54*	-	-	-	-
Name and place	0	157	45.60	*41.37*	2	141	44.12	*39.82*
Description	0	165	52.52	*53.54*	0	243	58.88	*61.72*
Details	0	74	18.15	*16.52*	0	43	13.52	*12.16*
Price	0	80	27.15	*19.32*	0	62	24.30	*16.46*
Photos	9	170	71.0	*39.18*	6	171	79.67	*36.73*
AOI sum			219.35				220.49	
Other fixations			48.01				34.30	
Total	57	663	267.36	*174.47*	50	730	254.79	*162.72*

* EU-Ecolabel, Fairtrade Tourism label, Atmosfair label, Ecocertified tourism

When we measure fixation counts, we can see that details receive some more information attention (W=356, p=.011), while photos receive some less attention when sustainability information in available (W=141.5, p=.013) (Table 47).

Table 47: Significance test results or Fixation Counts between conditions 1 and 2

Fixation Counts	Paired-samples	Two-sided	Two-sided
	W	p	BF_{10}
Ecolabels *	-	-	-
Name and place	296.0	.346	0.234
Description	227.5	.495	0.474
Details	356.0	**.011**	**3.860**
Price	324.5	.058	0.639
Photos	141.5	**.013**	**1.862**
AOI sum			
Other fixations			
Total	365.5	.129	??

* EU-Ecolabel, Fairtrade Tourism label, Atmosfair label, Ecocertified tourism

3.4.2 Fixation durations

Furthermore, we checked the differences in fixation durations between the two conditions. Condition 1 is viewed slightly longer compared to condition 2. Overall, ecolabels were fixated with a mean duration of 1.32 seconds across the six stimuli. Overall, the additional labels appear to lead to a minor reduction in fixation duration on name and place, descriptions and photos on one hand, and to an increase in fixation duration for details and prices on the other hand. These differences will be further analysed in the following chapter.

Table 48: Descriptive results of fixation duration on AOIs (set 2)

Fixation Duration (sec.)	Condition 1: With Ecolabels				Condition 2: No additional labels			
	Min.	Max.	Mean	*SD*	Min.	Max.	Mean	*SD*
Ecolabels *	0.00	4.25	1.32	*1.43*	-	-	-	-
Name and place	0.00	39.19	11.48	*10.49*	0.24	43.57	12.14	*10.91*
Description	0.00	78.53	15.36	*19.47*	0.00	78.27	17.47	*20.81*
Details	0.00	13.90	3.87	*3.56*	0.00	10.31	2.92	*3.14*
Price	3.30	29.11	7.24	*6.33*	2.29	39.60	5.82	*5.06*
Photos	0.00	36.00	17.56	*9.67*	0.00	20.86	18.89	*10.03*
AOI sum			56.83				57.24	
Other fixations			8.69				7.71	
Total	7.28	194.31	65.52	*42.53*	6.00	233.96	64.95	*46.44*

* EU-Ecolabel, Fairtrade Tourism label, Atmosfair label, Ecocertified tourism

Interestingly, the additional labels do lead to a minor reduction in fixation duration for name and place, descriptions and photos on one hand, and to an increase in fixation duration for details and prices on the other hand. Note that price is the only item showing a highly significant difference by classical standards and a moderate support for H1 over H0 in Bayesian statistics (Table 49): As ecolabels appear, attention for prices seems to go up.

Table 49: Significance test results or Fixation Duration between conditions 1 and 2

Fixation Duration (sec.)	Paired-samples	Two-sided	Two-sided
	W	p	BF_{10}
Ecolabels *	-	-	-
Name and place	259.0	.711	0.280
Description	187.5	.155	1.506
Details	354.0	.039	1.286
Price	403.0	**.002**	**8.220**
Photos	183.0	.083	0.495
AOI sum			
Other fixations			
Total	353.0	.201	0.190

* EU-Ecolabel, Fairtrade Tourism label, Atmosfair label, Ecocertified tourism

3.5 H4 (instruction)

H4 (instruction): Sustainability information clues are viewed more frequently or longer if the respondent is instructed to choose the most sustainable alternative compared to the neutral instruction. (to be tested on set 3).

The fourth hypothesis was set out to investigate whether sustainability information clues are viewed more frequently or longer if the respondent is instructed to choose the most sustainable alternative compared to the neutral instruction. The analysis of this hypothesis is expected to shed light on the familiarity of respondents regarding the availability of sustainability information. The question hereby is, whether respondents are able to locate and detect all the given sustainability information clues. Further, a conclusion regarding this hypothesis will clarify the way in which respondents make use of sustainability information in terms of repetitive fixations for a comparison of the given information across the alternatives of holiday offers.

3.5.1 Fixation counts

Fixation counts under the two conditions of neutral instruction and sustainability instruction in set 3 were examined. Closely aligned to the descriptive statistics of fixation durations, the fixation counts on the overall stimuli were fewer under condition 2 with a mean fixation count of 213.93 compared to condition 1 with a mean fixation count of 300.77. However, fixation counts on most of the AOIs containing sustainability information increased under condition 2, as was expected.

Table 50: Descriptive results of fixation counts on AOIs (set 3)

Fixation Count	Condition 1: Neutral Instruction				Condition 2: Sustainability Instruction			
	Min.	Max.	Mean	*SD*	Min.	Max.	Mean	*SD*
Carbon footprint label	0	6	0.87	*1.38*	0	15	2.40	*4.45*
Implicit information	0	108	38.47	*35.88*	0	193	59.93	*57.91*
Ecolabels	0	25	3.83	*4.87*	0	32	7.27	*8.24*
Summary of sustainability performance	0	44	5.40	*9.10*	0	52	14.70	*16.71*
AOI sum			48.51				84.29	
Other fixations			252.26				129.64	
Total	38	681	300.77		50	610	213.93	*146.77*

* EU-Ecolabel, Fairtrade Tourism label, Atmosfair label, Ecocertified tourism

Subsequently, the Wilcoxon test has been conducted with the fixation counts on AOIs displaying sustainability information. Here, carbon footprint labels were fixated on significantly more often under condition 1 (W=106/30 at p=0.047 and z=-1.98), as well as implicit sustainability information (W=352/113 at p=0.014 and z=-2.46) and the summary of sustainability performance (W=339/12 at p=0.00 and z=-4.15). The only non-significant result here was for the ecolabels (W=229/96 at p=0.073 and z=-4.15).

Table 51: Results of Wilcoxon Test (Fixation Counts, set 3)

Fixation Count	Condition 1: Neutral Instruction		Condition 2: Sustainability Instruction		Paired-samples	Two-sided
	Mean	*SD*	Mean	*SD*	W	p
Carbon footprint label	0.87	*1.38*	2.40	*4.45*	106.00/30	.047
Implicit information	38.47	*35.88*	59.93	*57.91*	352.00/113	.014
Ecolabels	3.83	*4.87*	7.26	*8.24*	229.00/96	.073
Summary of sustainability performance	5.40	*9.10*	14.70	*16.71*	339.00/12	.000
AOI sum	48.51		84.29			
Other fixations	252.26		129.64			
Total	300.77	189.13	213.93	*146.77*	76.00(372)	.001

* EU-Ecolabel, Fairtrade Tourism label, Atmosfair label, Ecocertified tourism

3.5.2 Fixation duration

Overall fixation durations on the stimuli differed between the two conditions, whereat the first condition with a mean fixation duration of 83.61 seconds is viewed much longer than the second condition with a mean fixation duration of 55.39. It is to note that the same stimuli were shown in the two conditions, so that respondents were already familiar with the offers in condition 2, which resulted in shorter fixation durations on the overall stimuli. Very contrary to the fixation durations on the entire stimulus, fixation durations on most of the appointed AOIs with sustainability information increased under condition 2, apart from the carbon footprint label.

Table 52: Descriptive results of fixation duration on AOIs (set 3)

Fixation Duration (sec.)	Condition 1: Neutral Instruction				Condition 2: Sustainability Instruction			
	Min.	Max.	Mean	*SD*	Min.	Max.	Mean	*SD*
Carbon footprint label	0.00	11.85	0.18	*0.31*	0.00	1.19	1.09	*2.54*
Implicit information	0.00	50.23	10.20	*12.71*	0.00	42.56	15.87	*15.95*
Ecolabels	0.00	8.78	0.75	*0.85*	0.00	3.59	2.49	*2.77*
Summary of sustainability performance	0.00	19.12	1.63	*3.10*	0.00	16.04	5.63	*6.93*
AOI sum			12.76				25.08	
Other fixations			70.85				30.31	
Total	6.67	243.91	83.61	*62.75*	4.08	160.72	55.39	*38.08*

* EU-Ecolabel, Fairtrade Tourism label, Atmosfair label, Ecocertified tourism

The data was first checked for the assumption of normality with Shapiro-Wilk test, which indicates that the data deviate from a normal distribution. Therefore, the non-parametric Wilcoxon test was selected for data analysis and interpretation. Results of the Wilcoxon test presented in Table 53 and Table 51 show that all sustainability information cues except for the carbon footprint label are viewed significantly longer under condition 2 compared to condition 1.

The carbon footprint label shows a non-significant test result (W= 122.5 /48.5 at p=0.112) and is therefore not viewed significantly longer when respondents are instructed to look for the most sustainable alternative. However, implicit information is viewed significantly longer (W=346 at p=0.019) as well as ecolabels (W=295 at p=0.011) and the summary of the sustainability performance (W=271.5, p=.004). The same result structure applies also for the Bayes factors (Table 53).

Table 53: Results of Wilcoxon Test (Fixation Duration, Set 3)

Fixation Duration (sec.)	Condition 1: Neutral Instruction		Condition 2: Sustainability Instruction		Paired-samples	Two-sided	Two-sided
	Mean	*SD*	Mean	*SD*	W	p	BF_{10}
Carbon footprint label	0.18	*0.31*	1.09	*2.54*	122.5	.112	1.090
Implicit information	10.20	*12.71*	15.87	*15.95*	346.0	.019	2.332
Ecolabels	0.75	*0.85*	2.49	*2.77*	295.0	.011	16.152
Summary of sustainability performance	1.63	*3.10*	5.63	*6.93*	271.5	.004	25.389
AOI sum	12.76		25.08				
Other fixations	70.85		30.31				
Total	83.61	*62.75*	55.39	*38.08*	93.0	.004	13.892

* EU-Ecolabel, Fairtrade Tourism label, Atmosfair label, Ecocertified tourism

The fact that overall fixation durations and fixation counts on the stimuli are higher under condition 1 compared to condition 2, whereat fixation durations and fixation counts on AOIs with sustainability information increase significantly under condition 2, shows that respondents have found the informational cues containing sustainability information relatively quickly when asked to look for the most sustainable offer.

3.6 H5 (instruction-attitude)

H5 (instruction-attitude). The instruction effect from H4 will be intensified if attitude towards tourism sustainability is positive (to be tested on set 3).

To further check whether there is a moderating or reinforcing effect from attitude on the instruction effect described above, we used a repeated measurements ANOVA with the two attitude groups described in H2 as between-subjects factors. We use the “Summary of sustainability performance” as indicator, because this variable has shown the most variability in the previous analysis.

3.6.1 Fixation counts

In fact, fixation counts on the “Summary of sustainability performance” AOI go up if there is a positive attitude towards sustainability. However, this mean difference can be seen under both conditions, and the main effect of attitude does only yield an F-value of F(1,28) = 0.886, P=0.355.

Table 54: Repeated measures ANOVA for attitude groups (fixation counts)

Fixation Count "Summary of sustainability performance"	Percentage of respondents	Condition 1: Neutral instruction	Condition 2: Sustainability instruction
Positive attitude towards sustainability (Top 2)	67	6.05 (SD=10.74)	16.70 (SD=17.67)
No positive attitude towards sustainability	33	4.10 (SD=4.51)	10.70 (SD=14.64)
All respondents	100	5.4	14.70

3.6.2 Fixation duration

Basically, the same argument is true when looking at fixation duration instead of fixation counts. While in the positive attitude group the mean fixation duration on the "Summary of sustainability performance" AOI is higher than in the low-attitude group under the sustainability instruction, the same is true under the neutral instruction. While the main effect of the two instructions is highly significant, the main effect of attitude is not, with $F(1,28)=0.182$, $p=0.673$.

Table 55: Repeated measures ANOVA for attitude groups (fixation duration)

Fixation Count "Summary of sustainability performance"	Percentage of respondents	Condition 1: Neutral instruction	Condition 2: Sustainability instruction
Positive attitude towards sustainability (Top 2)	67	1.900 (SD=3.719)	5.845 (SD=6.894)
No positive attitude towards sustainability	33	1.075 (SD=1.120)	5.196 (SD=7.368)
All respondents	100	1.625	5.628

4 Discussion

This series of studies applies classical experimental designs to eye tracking measurement. The field of study is the attention for sustainability related information in tourism products.

It was found that in an environment of mass market sun and beach tourism products, sustainability labels do not find much attention: Respondents view sustainability labels only in between two and three percent of all fixations and also between two and three percent of the view time. Sustainability labels are not viewed more often than other labels relating to destination, sports or price information. This small interest in such labels in a realistic environment is in line with previous research and thus with expectations.

As opposed to expectations, however, an a-priori positive attitude toward sustainability has only a small and non-significant influence on visual perception of sustainability labels. The sheer amount of available and relevant information seems to supersede the influence of a

positive attitude on sustainability. However, it is important to note that the 'amount of visual attention' towards sustainability information as measured in this study does not make an indication on the respondents' experience with and attitude towards ecolabels. As such, a high amount of visual attention towards sustainability information could either signify a high interest in ecolabels or very little knowledge about ecolabels and thus the need for a closer examination. Further, a small amount of visual attention towards sustainability information could indicate that respondents are familiar with a label and do not need to examine it closer on one hand but could also indicate little interest in ecolabels overall on the other hand. Thus, the exact interpretation of what it means to direct attention to an ecolabel should be subject to further research.

Beside the question of how intensive *sustainability* labels are viewed, we also studied the viewing behaviour of *other* information clues when sustainability information is introduced. We found that in terms of number of fixations, the importance of product details goes significantly up while the importance of photos goes significantly down. In terms of view time, reflecting the intensity of evaluation, we found that the attention towards prices goes significantly up as soon as sustainability information is added to the set of available information.

Lastly, we checked which sustainability information format would get more attention when pushing respondents to look out for sustainability information. As expected, attention to all sustainability related clues (ecolabels, carbon footprint labels, implicit information and sustainability performance) increases when respondents are instructed to look for the most sustainable alternative. This implies that consumers seem to generally know where to find information on sustainability performance. However, sustainability labels (ecolabel, carbon footprint label) do not only have the smallest share in terms of view counts and view times, but also the least (and at times not even significant) increase when instructions are changed from neutral to sustainability focussed, while other sustainability information, and here specifically the implicit information, is viewed significantly more often and longer. Again, the a-priori attitude towards sustainability in travel does not have a significant main effect on view counts and times.

5 Conclusion

The data show again, that sustainability labels alone receive relatively little attention in a realistic environment.

Results of testing hypothesis 1 showed that ecolabels do not experience significantly more visual attention than labels which are void of content and information. This shows that any type of label catches the glimpse of the consumer’s eye, however it is questionable whether such information is thoroughly taken in and interpreted.

Results on the second hypothesis test showed that those respondents with a more positive attitude towards sustainability seem to pay more attention to labels, regardless of whether the labels exhibit sustainability information or unspecific information. As such, the target group appears to be more mindful and attentive when looking for suiting holiday products.

Regarding the third hypothesis of this study, it becomes apparent that the availability of ecolabels leads to a minor reduction of attention towards name and place, descriptions and photos on one hand, and to an increase in attention for details and prices on the other hand.

The fourth hypothesis tested the influence of an instruction on the amount of visual attention towards sustainability information. Here, it can be seen that sustainability cues are easily and quickly detected by respondents when instructed to look for the most sustainable offer.

Results on testing hypothesis 5 showed, again, that those respondents with a positive attitude towards sustainability seem to be more mindful and put more effort into their information search than those with a less positive attitude towards sustainability. This is true regardless of the previous instructions given.

Overall, this study found that it seems advisable to think about additional ways to related sustainability information to consumers. It could be shown, that implicit information, again, yields a higher share of attention than labels. Therefore, the design and informational transmittance of products combining sustainability and experiential value to the customer seem to be worthwhile as one of those alternatives. Care should be taken of the price argument, because attention towards prices rises as soon as sustainability information becomes available.

Again, the data do not suggest to dispense with ecolabels. They do suggest, however, that a change in informational environment (i.e. directing consumers to sustainability issues) and the additional use of experience-related information aspects would increase the attention for sustainability information in tourism. Attention, however, can be seen as a prerequisite for perception, cognitive evaluation and decision making.

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7 Annex

7.1 Screener for respondent identification and recruiting (original version)

Frage 1: Haben Sie innerhalb der letzten drei Jahre eine Urlaubsreise/Kurzurlaubsreise online gebucht?

Ja ☐

Nein ☐

Frage 2: Können Sie sich vorstellen, in den nächsten drei Jahren eine Urlaubsreise/Kurzurlaubsreise online zu buchen?

Ja ☐

Nein ☐

➔ Frage 1 oder Frage 2 mit ‚Nein' beantwortet → ENDE

Frage 3: Haben Sie in den letzten drei Jahren eine Urlaubsreise/Kurzurlaubreise im Mittelmeerraum unternommen?

Ja ☐

Nein ☐

Frage 4: Können Sie sich vorstellen, in den nächsten drei Jahren eine Urlaubsreise/Kurzurlaubreise im Mittelmeerraum zu unternehmen?

Ja ☐

Nein ☐

➔ Frage 3 oder Frage 4 mit ‚Nein' beantwortet → ENDE

Statistik: Wie alt sind sie?

Alter:……Jahre

➔ ca. 40% 14-39 Jahre, ca. 35% 40-59 Jahre, ca. 25% 60 Jahre und älter

Was ist ihr Geschlecht?

Geschlecht: ☐ weiblich ☐ männlich

➔ ca. 50% weiblich und 50% männlich

Sind Sie berufstätig?

Tätigkeit: ☐ nein

☐ ja, weniger als halbtags beschäftigt

☐ ja, halbtags beschäftigt oder mehr

☐ ja, ganztags beschäftigt

➔ ca. 50% mindestens halbtags berufstätig

7.2 Pre- and post-questionnaire (original version)

Herzlich willkommen!

Vielen Dank, dass Sie an unserer Eye Tracking-Studie teilnehmen. Die Untersuchung wird in einige kleine Etappen eingeteilt.

Zuerst stellen wir Ihnen einige Fragen zum Thema 'Urlaubsreisen'. Danach bitten wir Sie, sich in mehreren Durchläufen auf bekannten Reisewebsites jeweils eine Unterkunft auszusuchen. Dabei werden wir Ihre Augenbewegungen aufzeichnen. Zuletzt machen wir noch eine kurze Nachbefragung.

Bitte lesen Sie alle Anleitungen vor den einzelnen Schritten aufmerksam durch. Ihre Daten werden anonym und vertraulich verwendet. Durch Ihre Teilnahme helfen Sie uns dabei, Online-Buchungen genauer zu verstehen, und für die Zukunft zu verbessern.

Diese Umfrage enthält 11 Fragen.

A) Statistik

[ParticipantID] Bitte hier die Proband-ID erfassen.

[AGE] **Wie alt sind Sie?**

[SEX] **Was ist Ihr Geschlecht?**

1. Männlich
2. Weiblich

[JOB] **Sind Sie berufstätig?**

1. Nein, nicht berufstätig
2. Ja, weniger als halbtags beschäftigt
3. Ja, halbtags beschäftigt oder mehr
4. Ja, ganztags beschäftigt

Wie viele Urlaubs- und Kurzurlaubsreisen haben Sie in den vergangenen 12 Monaten, also 2016/2017, unternommen?

Bitte geben Sie Ihre Antwort(en) hier ein:

[UR] Urlaubsreisen (5 Tage und länger)

[KUR] Kurzurlaubsreisen (2-4 Tage)

[MEDL3] **Haben Sie in den letzten drei Jahren eine Reise in den Mittelmeerraum unternommen?**

Bitte wählen Sie nur eine der folgenden Antworten aus:

1. Ja
2. Nein

[MEDN3] **Können Sie sich vorstellen, in den nächsten drei Jahren eine Reise in den Mittelmeerraum zu unternehmen?**

Bitte wählen Sie nur eine der folgenden Antworten aus:

1. Ja
2. Nein

[ONLL3] **Haben Sie in den letzten drei Jahren eine Reise oder einen Reisebaustein online gebucht?**

Bitte wählen Sie nur eine der folgenden Antworten aus:

1. Ja
2. Nein

[ONLN3] **Können Sie sich vorstellen, in den nächsten drei Jahren eine Reise oder einen Reisebaustein online zu buchen?**

Bitte wählen Sie nur eine der folgenden Antworten aus:

1. Ja
2. Nein

B) Vorbefragung

B1: Wie weit treffen die folgenden Aussagen für Sie persönlich zu, wenn es um Urlaubsreisen geht?

Sie können antworten mit 1=trifft voll und ganz zu, bis 5= trifft ganz und gar nicht zu. Mit den Werten dazwischen können Sie ihre Meinung abstufen. Bitte klicken Sie jeweils auf das entsprechende Feld.

		1 = trifft voll und ganz zu	2	3	4	5 = trifft ganz und gar nicht zu	möchte ich nicht sagen
URL_I1	Urlaubsreisen sind mir sehr wichtig.	1	2	3	4	5	NA
URL_I2	Urlaubsreisen interessieren mich sehr.	1	2	3	4	5	NA
URL_I3N	Urlaubsreisen sind mir vollkommen gleichgültig.	1	2	3	4	5	NA
URL_F1	Es macht Spaß, in den Urlaub zu fahren.	1	2	3	4	5	NA
URL_F2	In den Urlaub zu fahren ist ein bisschen so wie sich selbst etwas zu schenken.	1	2	3	4	5	NA
URL_F3	In den Urlaub zu fahren ist eine Freude für mich.	1	2	3	4	5	NA
URL_S1	Man bekommt einen Eindruck von jemandem, wenn man weiß, welche Urlaubsreisen er oder sie macht.	1	2	3	4	5	NA
URL_S2	Es sagt etwas über die Persönlichkeit aus, welche Urlaubsreisen jemand macht.	1	2	3	4	5	NA
URL_S3	Meine Urlaubsreisen sagen anderen etwas darüber, was für eine Art Mensch ich bin.	1	2	3	4	5	NA
URL_R1N	Wenn man in den Urlaub fährt, ist es nicht so schlimm, wenn man die falsche Reise aussucht.	1	2	3	4	5	NA
URL_R2	Es ist schon ziemlich ärgerlich, wenn ich nicht den für mich passenden Urlaub aussuche.	1	2	3	4	5	NA
URL_R3	Wenn sich nach dem Urlaub herausstellt, dass ich eine schlechte Wahl getroffen habe, stört mich das.	1	2	3	4	5	NA

B2: Nun geht es etwas konkreter um Ihre Wünsche, wenn Sie Urlaubsreisen unternehmen. Bitte geben Sie wieder an, inwieweit folgende Aussagen für Sie persönlich zutreffen.

Sie können antworten mit 1= "trifft voll und ganz zu" bis 5= "trifft ganz und gar nicht zu". Mit den Werten dazwischen können Sie Ihre Meinung abstufen. Bitte klicken Sie auf das jeweils entsprechende Feld.

B2_		1 = trifft voll und ganz zu	2	3	4	5 = trifft ganz und gar nicht zu	keine Antwort
1	Ich organisiere meinen Urlaub am liebsten ganz auf eigene Faust, um unabhängig zu sein und meinen Urlaub möglichst individuell gestalten zu können.	1	2	3	4	5	NA
2	Ich buche am liebsten eine organisierte Reise, wo Anreise und Unterkunft organisiert sind und in einem Paket zu einem festen Preis angeboten werden.	1	2	3	4	5	NA
3	Ich buche am liebsten eine Baustein-/Modulreise, wo ich alle Leistungen individuell zusammenstellen und dadurch den Preis beeinflussen kann.	1	2	3	4	5	NA
4	Mein Urlaub sollte so preiswert wie möglich sein, eine einfache, aber saubere Unterkunft reicht mir vollkommen.	1	2	3	4	5	NA
5	In meinem Urlaub habe ich es am liebsten richtig luxuriös, auch wenn das nicht ganz billig ist, das gilt auch für meine Unterkunft. (z.B. 5 Sterne-Hotels und mehr)	1	2	3	4	5	NA
6	In meinem Urlaub bevorzuge ich die Mittelklasse bis Komfortklasse, lebe also weder besonders luxuriös noch besonders sparsam.	1	2	3	4	5	NA
7	**Mein Urlaub soll möglichst ökologisch verträglich, ressourcenschonend und umweltfreundlich sein.**	**1**	**2**	**3**	**4**	**5**	**NA**
8	**Mein Urlaub soll möglichst sozial verträglich sein. (d.h. faire Arbeitsbedingungen fürs Personal und Respektieren der einheimischen Bevölkerung)**	**1**	**2**	**3**	**4**	**5**	**NA**
9	Meine Unterkunft soll barrierefrei sein.	1	2	3	4	5	NA
10	Ich plane meinen Urlaub im Vorfeld sehr genau.	1	2	3	4	5	NA
11	Ich habe aufgrund besonderer Bedürfnisse spezielle Anforderungen an die Unterkunft, das Verkehrsmittel usw.	1	2	3	4	5	NA

FINDUS Nachbefragung: Eye Tracking

Nun haben Sie es fast geschafft! Wir haben nur noch ein paar kurze Fragen an Sie.
Diese Umfrage enthält 4 Fragen.

C) Attitude

Nun geht es um Ihre Einstellung zum Thema der nachhaltigen Entwicklung. Inwieweit treffen die folgenden Aussagen Ihrer Meinung nach zu?

Sie können antworten mit 1= "trifft voll und ganz zu" bis 5= "trifft ganz und gar nicht zu". Mit den Werten dazwischen können Sie Ihre Meinung abstufen. Bitte klicken Sie hierfür auf das entsprechende Feld.

ATT_		1 = trifft voll und ganz zu	2	3	4	5 = trifft ganz und gar nicht zu	möchte ich nicht sagen
1	Wenn Menschen in die Natur eingreifen, verursachen sie oft katastrophale Folgen.	1	2	3	4	5	NA
2	Umweltschutz und die Lebensqualität des Menschen sind direkt miteinander verbunden.	1	2	3	4	5	NA
3	Die Artenvielfalt sollte auch auf Kosten der Landwirtschaft geschützt werden.	1	2	3	4	5	NA
4	Die Bebauung von Flächen ist weniger wichtig als der Umweltschutz.	1	2	3	4	5	NA
5	Umweltschutz ist wichtiger als Wirtschafts-wachstum.	1	2	3	4	5	NA
6	Die Regierung sollte nachhaltige Produktion fördern, auch wenn das mehr Geld kostet.	1	2	3	4	5	NA
7	Menschen sollten mehr unternehmen, um die Unterschiede zwischen Arm und Reich zu verkleinern.	1	2	3	4	5	NA
8	Die Regierungen sollten durch Richtlinien den Fair Trade fördern.	1	2	3	4	5	NA
9	Die Politik sollte etwas unternehmen, wenn ein Land seine Ressourcen verschwendet.	1	2	3	4	5	NA
10	Die Bekämpfung von Armut und Hunger in der Welt ist wichtiger als das wirtschaftliche Wohlergehen in den Industrieländern.	1	2	3	4	5	NA
11	Jedes Land kann einen Beitrag zur Sicherung des Friedens in der Welt leisten.	1	2	3	4	5	NA
12	Die Gleichstellung von Mann und Frau ist weiterhin eine wichtige gesellschaftliche Auf-gabe.	1	2	3	4	5	NA
13	Der Kontakt zwischen Kulturen ist anregend und bereichernd.	1	2	3	4	5	NA
14	Die Gesellschaft sollte eine kostenlose medizinische Grundversicherung anbieten.	1	2	3	4	5	NA
15	Fürsorge für einzelne Menschen und für Familien ist eine gesellschaftliche Aufgabe.	1	2	3	4	5	NA

D) Involvement

Nun geht es noch einmal um Ihre Einstellung zu nachhaltigen Produkten. Mit 'nachhaltigen Produkten' meinen wir solche, die vorausschauend, mit besonderer Rücksicht auf die Umwelt, und unter guten Arbeitsbedingungen hergestellt wurden.

Sie können antworten mit 1= "trifft voll und ganz zu" bis 5= "trifft ganz und gar nicht zu". Bitte klicken Sie hierfür auf das entsprechende Feld.

		1 = trifft voll und ganz zu	2	3	4	5 = trifft ganz und gar nicht zu	möchte ich nicht sagen
SUS_I1	Es ist mir sehr wichtig, Produkte zu kaufen, die nachhaltiger sind als üblich.	1	2	3	4	5	NA
SUS_I2	Nachhaltige Produkte interessieren mich sehr.	1	2	3	4	5	NA
SUS_I3N	Nachhaltige Produkte sind mir vollkommen gleichgültig.	1	2	3	4	5	NA
SUS_F1	Es freut mich, ein nachhaltiges Produkt zu kaufen.	1	2	3	4	5	NA
SUS_F2	Ein nachhaltiges Produkt zu kaufen ist ein bisschen so, wie sich selbst etwas zu schenken.	1	2	3	4	5	NA
SUS_F3	Es macht Spaß, nachhaltige Produkte zu kaufen.	1	2	3	4	5	NA
SUS_S1	Man bekommt einen Eindruck von jemandem, wenn man weiß, ob und welche nachhaltigen Produkte er oder sie kauft.	1	2	3	4	5	NA
SUS_S2	Es sagt etwas über die Persönlichkeit aus, wenn man weiß, ob jemand nachhaltige Produkte kauft.	1	2	3	4	5	NA
SUS_S3	Ob ich nachhaltige Produkte kaufe, sagt etwas darüber aus, was für eine Art Mensch ich bin.	1	2	3	4	5	NA
SUS_R1N	Wenn man bei nachhaltigen Produkten etwas Falsches kauft, ist das weniger schlimm als bei anderen Produkten.	1	2	3	4	5	NA
SUS_R2	Wenn man bei einem nachhaltigen Produkt nicht das Richtige kauft, ist das ärgerlicher als bei anderen Produkten.	1	2	3	4	5	NA
SUS_R3	Wenn sich nach dem Kauf von einem nachhaltigen Produkt herausstellt, dass ich eine schlechte Wahl getroffen habe, stört mich das mehr als bei anderen Produkten.	1	2	3	4	5	NA

E) Erfahrung NH Reisen

Nun geht es noch einmal speziell um Nachhaltigkeit bei Urlaubsreisen, d.h. wie ökologisch verträglich, ressourcenschonend, umweltfreundlich und sozial verträglich der Urlaub gestaltet wird. Wenn Sie einmal an Ihre letzte Urlaubsreise zurückdenken: Welche der folgenden Aussagen trifft auf Sie zu?

Bitte wählen Sie nur eine der folgenden Antworten aus:

1. Nachhaltigkeit war das zentrale Entscheidungskriterium bei der Auswahl der Reise
2. Nachhaltigkeit hat den Ausschlag gegeben bei der Entscheidung zwischen sonst gleichwertigen Angeboten
3. Nachhaltigkeit war – neben anderen Dingen – ein Aspekt bei der Gestaltung der Urlaubsreise
4. Nachhaltigkeit hatte bei dieser Urlaubsreise keine Bedeutung
5. Nachhaltiges Reisen interessiert mich generell nicht

Geschafft!

Vielen Dank für Ihre Teilnahme an unserer Eye Tracking Studie.

7.3 Instructions (Original version)

7.3.1 Set 1

Stellen Sie sich vor, Sie möchten Ihren nächsten Urlaub auf Mallorca verbringen. Nach einer Unterkunft haben Sie bisher noch nicht gesucht.

Mit der Escape-Taste gelangen Sie zu einer Reihe von Bildern einer bekannten Reisewebsite, auf denen jeweils drei verschiedene Unterkünfte zur Auswahl stehen.

Bitte schauen Sie sich die drei Angebote auf dem Bild an, und benennen Sie spontan, welches davon Ihnen am besten gefällt. Ihre Antworten werden mit dem Mikrophon aufgezeichnet. Mit der Escape-Taste gelangen Sie zu dem nächsten Bild mit drei Angeboten. Diese Aufgabe werden wir einige Male wiederholen.

Bitte drücken Sie die Escape-Taste, sobald Sie bereit sind.

7.3.2 Set 2

Nun stellen Sie sich vor, Sie möchten Ihren nächsten Urlaub in Italien verbringen. Nach einer Unterkunft haben Sie bisher nicht gesucht.

Mit der Escape-Taste gelangen Sie wieder zu einer Reihe von Bildern einer bekannten Reisewebsite, auf denen jeweils drei verschiedene Unterkünfte zur Auswahl stehen.

Die Aufgabe ist dabei dieselbe wie zuvor: Bitte schauen Sie sich die drei Angebote auf dem Bild an, und benennen Sie spontan, welches davon Ihnen am besten gefällt. Ihre Antworten werden wieder mit dem Mikrophon aufgezeichnet. Mit der Escape-Taste gelangen Sie zu

dem nächsten Bild mit drei Angeboten. Diese Aufgabe werden wir wieder einige Male wiederholen.

Bitte drücken Sie die Escape-Taste, sobald Sie bereit sind.

7.3.3 Set 3 – neutral

Im Folgenden werden wir Ihnen nach einander vier Angebote für Hotels in Italien auf einer bekannten Reisewebsite zeigen. Ein Angebot ist dabei auf drei Bilder aufgeteilt. Mit der Escape-Taste gelangen Sie zum nächsten Bild.

Vorsicht: Sie können sich jedes Angebot nur einmal ansehen!

Nachdem Sie sich die vier Angebote angesehen haben, benennen Sie bitte, welches davon Ihnen am besten gefallen hat.

Bitte drücken Sie erneut die Escape-Taste, um zu beginnen.

7.3.4 Set 3 – sustainably

Nun werden wir Ihnen dieselben Angebote der Hotels in Italien noch einmal nacheinander zeigen. Ein Angebot ist dabei wieder in drei Bilder unterteilt.

Vorsicht: Sie können jedes Angebot wieder nur einmal ansehen!

Finden Sie heraus, welches der Hotels am nachhaltigsten ist? Bitte benennen Sie am Ende des Durchlaufs, welches der Hotels Sie am nachhaltigsten einschätzen.

Unter denjenigen Teilnehmern der Studie, die das nachhaltigste Angebot gefunden haben, verlosen wir einen kleinen Preis.

Bitte drücken Sie die Escape-Taste, um zu beginnen.

Working Paper FINDUS 4: Choice-Experiment

1 Choice experiments

This study is based on stated preference surveys, as opposed to methods using data on revealed preferences. “A stated preference survey is a survey that asks agents questions that embody information about preferences”(Carson & Louviere, 2011, p. 541).

The method is based upon the thought that it would be possible to decompose a good into its characteristics and to infer the utility of these characteristics by measuring stated preferences of respondents in experimentally designed surveys (Louviere, Hensher, & Swait, 2000, p. 3).

One empirical method to asses stated preferences is to use *discrete choice experiment (DCE)*, which can be defined as “... a general preference elicitation approach that asks agents to make choice(s) between two or more discrete alternatives where at least one attribute of the alternative is systematically varied across respondents in such a way that information related to preference parameters of an indirect utility function can be inferred.”(Carson & Louviere, 2011, p. 543). The general setup of discrete choice sets can be described as follows: “A *stated choice experiment* consists of a set of choice sets. Each choice set consists of two or more options (or alternatives). Each respondent (also called subject) is shown each choice set in turn and asked to choose one of the options presented in the choice sets. The number of options in the choice experiments is often called the *choice set size*.” (Street & Burgess, 2007, p. 2).

Within this framework, we use *generic* choice experiments: “In such an experiment, all options in each choice set are described by the same set of attributes, and each of these attributes can take one level from a set of possible levels.”(Street & Burgess, 2007, p. 2) The term generic includes that choice sets are not labelled, e.g. by brands, so that the attributes would depend on the label.

An example for a choice card from a discrete choice experiment is shown in Figure 17.

Say a local travel agency has contacted you and told you about the three vacation packages below. Assuming that both you and your spouse would have time available to take a vacation together in the near future, please indicate your most preferred vacation option or whether you'd rather stay home.

PACKAGE	Package A	Package B	Package C	Stay
Type of Vacation				
Location	Large urban area	Mountain resort	Ocean side resort	
Duration	Weekend	One week	Two weeks	
Distance From Home	1500 miles	1000 miles	300 miles	
Amenities and Activities	Sightseeing Theater Restaurants	Hiking Horse riding Lake swimming	Beach activities Diving lessons Parasailing	
Distance to nearest urban area of 300,000 people or more		10 miles	100 miles	
Travel Arrangements				
Air travel cost (per person, round trip)	$400	$350	$300	
Accommodations				
Hotel (per night, double occupancy)	$120	$150	$75	
Quality of hotel restaurant or nearest other restaurant	**	***	*	
Which package would you and your spouse choose for your next vacation together, or would both of you rather stay at home if these were the only options available? (✓ only one)	A ☐1	B ☐2	C ☐3	Stay home ☐4

Figure 1.5 Example of a choice experiment

Figure 17: Example of a discrete choice experiment (Louviere et al., 2000, p. 14)

Other formats to assess stated preferences are contingent valuation (e.g. "How much would you be willing to pay for …?" as an example of an open-ended question, and "Would you be willing to pay … for …" as an example for a closed-ended question format) or contingent behaviour ("respondents are asked how they would change the level of some activity in response to a change in an environmental amenity"), In contrast, discrete choice experiments ask for choices between alternatives (Freeman, Herriges, & King, 2014, p. 384).

Choice experiments have been used to study environmental aspects of consummation in general (Freeman et al., 2014; Sammer, 2007; Vega & Alpízar, 2011) and for tourism in particular (Wehrli, Schwarz, & Stettler, 2011).

2 Study-design, data collection and data analysis

In this study, we use both discrete choice sets and contingent valuation with open-ended questions.

2.1 Study design

In the first part, we compare different sets of alternatives (stimuli), while the respondent structure is identical through all comparisons. Table 56 gives an overview of the sets used ni the first phase. Two sets form "twins" in that either comfort related aspects are varied (sets 1, 3 and 5) or sustainability aspects are varied (sets 2, 4, and 6) in a discrete choice same-price format (sets 1 and 2), a discrete choice varied-price format (sets 3 and 4) or an open-ended format for contingent valuation (sets 5 and 6).

Table 56: Sets before priming

Set	Type	Alternative 1	Alternative 2
Set 1	discrete choice	A: sport and wellness included, recommendation 83%, EUR 880	B: sport and wellness not included, recommendation 91%, EUR 880
Set 2	discrete choice	C: co2-rating A, recommendation 83%, EUR 880	D: co2-rating D, recommendation 91%, EUR 880
Set 3	discrete choice	E: sport and wellness included, EUR 880, recommendation 91%	F: sport and wellness not included, EUR 795, recommendation 91%
Set 4	discrete choice	G: co2-rating A, EUR 880, recommendation 91%	H: co2-rating D, EUR 795, recommendation 91%
Set 5	contingent, open-ended	J: sport and wellness included, no price given recommendation 91%	K: sport and wellness not included, EUR 795, recommendation 91%
Set 6	contingent, open-ended	L: co2-rating A, no price given, recommendation 91%	M: co2-rating D, EUR 795, recommendation 91%

After the first part, respondents were randomly assigned to one of two groups. Each group went through two questions asking for the positive and negative valuation of a set of aspects. Positive valuation was assessed by asking “how important is ... when going on holidays?” (scale 1 – very important through 5 – not at all important), negative valuation was assessed by asking “Sometimes one can hear negative things about holiday travel. To what extent would you accept ...” (scale 1 – not a big problem through 5 – would not book/accept). Group A was asked questions related to comfort aspects (e.g. “friendly staff” or “delicious breakfast” on the positive and “overbooked hotel” or “delayed flights” on the negative side), while group B was asked questions related to sustainability aspects (e.g. “co2 compensation for the flight” or “energy from renewable sources” on the positive and “low wages and exploitation of workforce” or “breakfast with food wrapped in plastic” on the negative side).

This approach is closely related *conceptual* priming (Decoster & Claypool, 2004; Karremans, Stroebe, & Claus, 2006; Tate, Stewart, & Daly, 2014; Verplanken & Holland, 2002). Priming can be described as the ‘manipulation of judgements and actions through the preceding activation of associated concepts’ (translated from Pfister, Jungermann, & Fischer, 2005, p. 397). Usually, priming is seen as a source of unwanted bias in survey methodology (Strack & Martin, 1987; Tourangeau, Singer, & Presser, 2003). We, however, used it to actively change the default settings for the respondents, as has been done in some previous studies (Erb, Bioy, & Hilton, 2002; Moorhouse, D’Cruze, & Macdonald, 2017). After priming, respondents in group A were preoccupied with aspects related to comfort and we assume that these respondents are now in a state of mind where thinking about (and thus expecting a higher level of) comfort efforts by the tour operator is their default setting. In contrast, respondents in group B are preoccupied with sustainability aspects and we assume that these respondents are now in a state of mind where thinking about (and thus expecting a higher level of) sustainability efforts by the tour operator is their default setting.

Our goal with this sort of priming was to change the information environment and consequently nudge respondents into one direction (Thaler & Sunstein, 2008).

In the second part, we compare these two groups in their reaction to identical stimuli. This is done most directly in set 7, while the sets 8/9 and 10/11 again for “twins” in that in one

set, comfort aspects are varied, while in the other set sustainability aspects are varied (Table 57).

Table 57: Sets after priming

Set	Type	Alternative 1	Alternative 2
Set 7	discrete choice	N: sustainability included, EUR 880, recommendation 91%	O: comfort included, EUR 880, recommendation 91%
Set 8	discrete choice	P: comfort not included, EUR 795, recommendation 91%	Q: comfort included, EUR 880, recommendation 91%
Set 9	discrete choice	R: sustainability included, EUR 880, recommendation 91%	S: sustainability not included, EUR 795, recommendation 91%
Set 10	contingent, open-ended	T: comfort not included, EUR 795, recommendation 91%	U: comfort included, no price given, recommendation 91%
Set 11	contingent, open-ended	V: sustainability not included, EUR 795, recommendation 91%	W: sustainability included, no price given, recommendation 91%

Each set of stimuli was available in two formats, where the *relevant* information was varied in the same way in both formats (the aspects shown in the two tables above: price, customer recommendation, sustainability aspects, comfort aspects), whereas the irrelevant information (e.g. pictures, additional texts, hotel name) was interchanged between the two formats in order to avoid irradiation effects (e.g. that respondents prefer one set of pictures over the other set and thus the irrelevant picture information overrides the relevant price or sustainability information). Some information (destination, hotel classification) was identical throughout the set.

Additionally, some structural questions were placed at the beginning of the questionnaire. This information includes demographics (age, sex, and household structure) and a set of scales measuring attitude towards price, booking behaviour, and sustainability information. This structural information is mainly used to check the sample structure against population values. The attitude variables were also used for deeper analysis of the choice results.

2.2 Data collection and analysis

Data were collected using a commercial panel of online respondents (IPSOS). All respondents had either spent a holiday at the Mediterranean during the last three years and/or are planning to do so in the next three years. This quota was set in order to avoid that the product in question (packaged holiday tour to Mallorca) was irrelevant to the respondents.

A total sample of 600 respondents went through the online interviews. Data were analysed using IBM SPSS Statistics for Windows and JASP 0.8.6 (JASP Team, 2018).

2.3 Reference to population

Population reference data were taken from Reiseanalyse 2016 and 2018, carried out by Forschungsgemeinschaft Urlaub und Reisen (FUR). Reiseanalyse is a large sample survey covering holiday travel behaviour in the German-speaking population aged 14 and above in Germany. For this comparison, we selected the sub-population of those aged 14-70 years and having access to the Internet. The group of Internet-users aged 14-70 years is about

54.0 million people in Germany. The portion of those who made a holiday trip to the Mediterranean in the previous three years and/or are planning to do so in the next three years is about 77% (Table 58).

Table 58: Base quotas, population and our sample

	Population, Internet users 14-70 years, n=6,004	CE sample, n=600
Holiday trip to the Mediterranean, previous three years	57.1	60.5
Holiday trip to the Mediterranean, next three years	72.7	91.8
Net (previous and/or next three years)	77.3	100.0

Population data from FUR Reiseanalyse 2018

In order to assess whether the structure of respondents is not too different from population parameters, we checked data for key demographics and a-priori attitudes towards selected aspects of holiday travel.

Demographically, no big differences occur between population data and our sample, except that our sample is slightly older.

Table 59: Sociodemographic key data, population and our sample

in percent	RA 2018, Internet users 14-70 years, Holiday to the Mediterranean (last/next three years), n=4,638	CE sample, n=600
Male	51.3	50.5
Female	48.7	49.5
14-24 years	19.1	16.2
25-34 years	18.5	17.3
35-44 years	18.2	16.8
45-54 years	23.5	22.0
55-64 years	15.2	18.8
65-70 years	5.6	8.8
Median age	41	44
Household size (mean number of persons)	2.7	2.6
With children (up to 17 years) in household	34.9	33.7

Population data from FUR Reiseanalyse 2018

Regarding selected attitudes toward holiday travel, we used the same scales previously used in the FINDUS project. In the CE sample, compared to the population data, we see a slightly smaller disposition towards packaged holiday and some more inclination towards luxury travel. In the most relevant field of attitudes towards sustainability, differences in net value are minimal (51.5% in population, 51.0% in our sample), however with a slightly

smaller gradient towards ecological sustainability. As a conclusion, we can say that our sample is neither specifically in favour of nor critical towards sustainability issues – the sample rather represents the average holiday maker accepting the Mediterranean as a holiday destination.

Table 60: Attitudes towards holiday travel, population and our sample

TOP 2 in percent, from a five-point scale	RA 2016, Internet users 14-70 years, Holiday to the Mediterranean (last/next three years),, n=4,433	CE sample, n=600
Prefer to plan individually	50.8	50.2
Prefer packaged holiday	46.5	38.8
Prefer modular holiday	32.9	30.8
Prefer holidays as cheap as possible	36.1	31.7
Prefer holiday as luxurious as possible	11.6	22.3
Prefer medium/comfort class holidays	56.4	53.3
Prefer my holiday to be barrier-free	10.4	11.0
Prefer my holidays to be ecologically sustainable	40.7	29.5
Prefer my holidays to be socially sustainable	47.4	46.3
Ecologically/socially sustainable (net value)	*51.5*	*51.0*

Population data from FUR Reiseanalyse 2018

3 Results

3.1 Pre-priming

3.1.1 Sets 1 and 2 (discrete choice, price not varied, before priming)

The first set of alternatives showed two hotel offers by tour operator A (sport and wellness included, customer recommendation score 83%) and tour operator B (sport and wellness not included, customer recommendation score 91%) at an identical price (EUR 880). All other travel characteristics were either identical (destination, air travel included, seven nights in a 4-star-hotel, full boarding, transfer from and to the airport included, German-speaking service available) or were randomly assigned to avoid preference formation on aspects outside the study scope (pictures, hotel name, text description).

The second set of alternatives was similarly constructed, only that now the two hotel offers differed in their carbon dioxide (co2) score and customer recommendation. Tour operator C offered a co2-rating of A (“best climate efficiency!”) and a customer recommendation score of 83%, while tour operator D offered a co2-rating of D, but a customer recommendation score of 91%.

Table 61 shows the results for the four alternative A through D. We see, that preference for the alternative with the better recommendation decreases by about 6.5 percentage points when the alternative is marked with its co2-rating (alternative D) as opposed to some com-

fort aspects (alternative B). These 6.5 percentage points, however, do not increase preference for the co2-A-alternative. Rather, 2.5 percentage points go to the avoidance alternative “none of the two”.

Table 61: Sets 1 and 2: Results

in %	All respondents, n=600	Positive attitude towards sustainability, n=306	No positive attitude towards sustainability, n=294
A (sport and wellness included, recommendation 83%, EUR 880)	34.2	35.0	33.3
B (sport and wellness not included, recommendation 91%, EUR 880)	55.2	52.0	58.5
none of the two	10.7	13.1	8.2
C (co2-rating A, recommendation 83%, EUR 880)	38.0	38.2	37.8
D (co2-rating D, recommendation 91%, EUR 880)	48.7	44.1	53.4
none of the two	13.3	17.6	8.8

We further analysed these choices using attitudes towards sustainability. Respondents were split into one group with positive attitude towards sustainability (“Prefer my holidays to be ecologically/socially sustainable”, top 2) and the other group with no positive attitude towards sustainability. The group differences for alternatives A and B are not significant on a .05-level ($\chi^2(2, N=600) = 4.668$, $p = .097$), while group differences for alternatives C and D differ significantly in such a way, that the group with positive attitudes towards sustainability chooses the D-rated alternative less often and rather evades into the “none of the two” option ($\chi^2(2, N=600) = 11.380$, $p = .003$).

3.1.2 Sets 3 and 4 (discrete choice, price varied, before priming)

In the sets 3 and 4, differing again in comfort aspects (wellness and sport included) and co2 rating (A and D), customer recommendation was identical, but prices were varying from EUR 880 for the better and EUR 795 for the less good alternative. The price difference of EUR 85 represents roughly ten percent of the travel price. Table 62 shows that, at the given price difference, the majority of respondents chooses the cheaper alternative, even if this means to abstain from additional comfort (sport and wellness included) or better sustainability (co2-A-rating).

The share of respondents willing to pay a surcharge of EUR 85 for more comfort, however, is only 32%, while the share of respondents willing to pay a surcharge of EUR 85 for a better co2 rating is 40%.

Table 62: Sets 3 and 4: Results

in %	All respondents, n=600	Positive attitude towards sustainability, n=306	No positive attitude towards sustainability, n=294
E (sport and wellness included, EUR 880, recommendation 91%)	32.0	31.4	32.7
F (sport and wellness not included, EUR 795, recommendation 91%)	59.2	57.2	61.2
none of the two	8.8	11.4	6.1
G (co2-rating A, EUR 880, recommendation 91%)	39.8	41.8	37.8
H (co2-rating D, EUR 795, recommendation 91%)	51.2	46.4	56.1
none of the two	9.0	11.8	6.1

The differences between groups by attitude towards sustainability for alternatives E and F are not significant on a .05-level ($\chi^2(2,N=600) = 5.285$, $p = .071$), while group differences for alternatives G and H differ significantly in such a way, that the group with positive attitudes towards sustainability chooses the D-rated alternative less often and partly chooses A-rated alternative or evades into the "none of the two" option ($\chi^2(2,N=600) = 8.696$, $p = .013$).

3.1.3 Sets 5 and 6 (contingent valuation, open-ended, before priming)

In the last two sets of the first part of the questionnaire, we principally repeated the setup of the sets 3 and 4, only that now no price was given for the better alternative. Rather, respondents were asked in an open-ended question which price they would deem appropriate for the second alternative.

In handling open-ended questions, some care has to be taken to exclude non-meaningful responses (like "1 Euro" or "2,000 Euro"), while keeping those reflecting a true price estimate. Table 63 shows the Min and Max values as well as the inter-quartile range (IQR), spreading from the 25th to the 75th percentile.

Table 63: Descriptives for Sets 5 and 6 (before outlier removal)

	Set 5	Set 6
Valid	600	600
Missing	0	0
Mean	775.0	772.4
Median	800.0	800.0
Std. Deviation	205.0	209.8
Minimum	1.0	1.0
Maximum	2300.0	2500.0
25th percentile	700.0	700.0
75th percentile	850.0	850.0
Inter-quartile range (IQR)	150.0	150.0
Outlier thresholds	475/1,075	475/1,075
Cases below P25-1.5*IQR	4.3%	4.5%
Cases above P75+1.5*IQR	1.7%	2.0%
Cases in the analysis	94.0%	93.5%

The boxplots in Figure 18 are taken from JASP, which uses the R boxplot command and which by default sets the whiskers at 1.5 IQR below the 25th and above the 75th percentile and marks all dots outside the whiskers as outliers (this same rule is applied by the boxplot command in SPSS). After removing these outliers, we can keep 94% of the respondents in the sample for analysis.

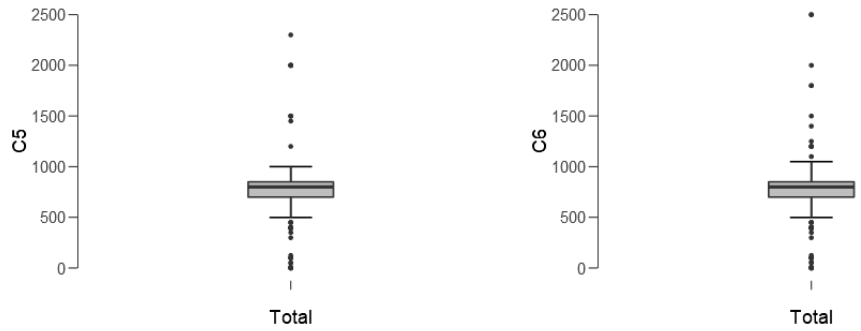

Figure 18: Boxplots for sets 5 and 6, before outlier removal

Table 64 shows the main results for the sets 5 and 6 after outlier removal. The surprising fact that the average sum of money deemed appropriate for the better alternative is lower than for the less good alternative (in both sets, 5 and 6) needs further investigation.

Table 64: Sets 5 and 6: Results

Alternative	EUR
J (sport and wellness included, no price given recommendation 91%)	Mean: 783.2
	SD: 102.0
	Median: 800
	Skewness: -.885
K (sport and wellness not included, EUR 795, recommendation 91%)	795
No. of cases	564
L (co2-rating A, no price given, recommendation 91%)	Mean: 780.8
	SD: 102.0
	Median: 800
	Skewness: -.767
M (co2-rating D, EUR 795, recommendation 91%)	795
No. of cases	561

Firstly, we can see that the distributions are left-skewed (mean smaller than median, negative skewness), implying that there are more extreme values below the mean than above.

Secondly, we can see that more people are ready to pay more than EUR 795 (58.0% in set 5, 53.7% in set 6) than less (32.3% in set 5, 35.3% in set 6), which is in line with expectations.

Thirdly, there might be an effect of the additional information (pictures, hotel name, text description), which was varied unsystematically. In fact, we find a statistically significant mean difference between the two groups in set 5, with means of 794.0 (SD: 95.0) for the first and 772.5 (SD: 107.6) for the second group and t(562)=2.513, p=.012. For set 6, however, there is no statistical significant difference (M1: 786.5, SD1: 100.1, M2: 775.1, SD2: 103.8, t(559)=0.210, p=.210). Furthermore, for set 5, even the first subgroup only reports a mean willingness to pay of EUR 794, slightly below the price of the less good alternative.

Additionally, we checked for attitude differences in regard to the willingness-to-pay. We formed two groups from the results of the attitude question B1. Table 60 showed the descriptive results for the two relevant items and the net value, which neatly splits up the sample into two groups of almost identical size. However, the mean differences between the group with positive attitudes (M=786.9, SD=103.7 for set 5, M=782.8, SD=103.9 for set 6) and the groups without positive attitudes (M=779.4, SD=100.3 for set 5 and M=778.8, SD=100.3 for set 6) are so small, that no statistically significant results could be obtained (T=.869, df=562, p=.386 for set 5 and T=.461, df=559, p=.645 for set 6). Again, mean values even in the positive attitude groups are below the value of the less good alternative.

3.2 Priming

After the respondents have been randomly assigned to one of the two groups A and B, they were primed. Group A had to answer two questions on comfort aspects (positive: importance of comfort aspects when booking a holiday, negative: acceptance of comfort shortcomings when travelling), group B went through two similar questions on sustainability aspects (positive: importance of sustainability aspects when booking a holiday, negative: acceptance of sustainability shortcomings when travelling).

We do not report the results of the priming questions here, because the questions were primarily asked for priming (methodological) reasons.

To make sure that random assignment of respondents to the two groups did not produce any distortion in respondent's structure, we checked for demographic differences (Table 65) and differences in attitudes (Table 66). It can be seen that group B (primed towards comfort) had a slightly more positive attitude towards sustainability even before priming, and we will take care of this fact by differentiating the attitude groups in the subsequent analyses. However, none of the group differences assessed was statistically significant on a .05 level (the group differences in item "prefer my holidays to be ecologically sustainable" came closest with p = .179).

Table 65: Sociodemographic key data, priming groups

in percent	All respondents, n=600	Group A (primed for comfort), n=300	Group B (primed for sustainability (n=300)
Male	50.5	50.7	50.3
Female	49.5	49.3	49.7
14-24 years	16.2	16.7	15.7
25-34 years	17.3	18.0	16.7
35-44 years	16.8	17.3	16.3
45-54 years	22.0	21.0	23.0
55-64 years	18.8	18.7	19.0
65-70 years	8.8	8.3	9.3
Median age (years)	44	43	45
Household size (mean number of persons)	2.6	2.7	2.4
With children (up to 17 years) in household	33.7	33.0	34.3

Table 66: Attitudes towards holiday travel, priming groups

TOP 2 in percent, from a five-point scale	All respondents, n=600	Group A (primed for comfort), n=300	Group B (primed for sustainability (n=300)
Prefer to plan individually	50.2	50.3	50.0
Prefer packaged holiday	38.8	36.7	41.0
Prefer modular holiday	30.8	30.0	31.7
Prefer holidays as cheap as possible	31.7	32.0	31.3
Prefer holiday as luxurious as possible	22.3	21.7	23.0
Prefer medium/comfort class holidays	53.3	52.7	54.0
Prefer my holiday to be barrier-free	11.0	9.7	12.3
Prefer my holidays to be ecologically sustainable	29.5	27.0	32.0
Prefer my holidays to be socially sustainable	46.3	45.7	47.0
Ecologically/socially sustainable (net value)	*51.0*	*50.0*	*52.0*

3.3 Post-priming

3.3.1 Set 7 (discrete choice, price not varied, after priming)

In the first set after the priming session, we asked respondents to decide between alternative N offering four sustainability aspects (co2-compensation, minimum wage like in Germany, use of renewable energies, low water consumption) and alternative O offering four comfort aspects (spacious rooms with sea-view, alcoholic beverages included, guaranteed times for air travel, sports and wellness included).

Table 67: Set 7: Results

Alternative	Group A (primed towards comfort)	Group B (primed towards sustainability)
N (sustainability included, EUR 880, recommendation 91%)	29.0	45.3
O (comfort included, EUR 880, recommendation 91%)	59.7	38.7
none of the two	11.3	16.0

Table 67 shows the results: Choice of the more sustainable alternative is significantly higher in group B (primed towards sustainability) than in the control group. A chi-square test of independence was performed, $\chi^2(2, N=600) = 26.6$, $p < .001$.

Further analysis using the attitude scale from the beginning of the questionnaire as additional information (Table 68) reveals, that preference towards the more sustainable alternative is highest in the group which was primed for sustainability *and* had positive attitudes towards sustainability (49.4%). In this group, also, the uncertainty is highest (19.9%), which can be taken as an indicator, that priming this "sustainability conscious" group towards sustainability reinforces this form of consciousness, leading either to preference formation or to uncertainty (avoidance).

Table 68: Set 7, Priming-groups, attitudes and discrete choice

	Group A (primed for comfort), **positive** attitude towards sustainability	**Group B** (primed for sustainability), **positive** attitude towards sustainability	**Group A** (primed for comfort), **no positive** attitude towards sustainability	**Group B** (primed for sustainability), **no positive** attitude towards sustainability
n=	150	156	150	144
Set 7, $\chi^2(6, N=600) = 51.117, p < .001$				
N (sustainability included, EUR 880, recommendation 91%)	35.3	49.4	22.7	41.0
O (comfort included, EUR 880, recommendation 91%)	48.7	30.8	70.7	47.2
none of the two	16.0	19.9	6.7	11.8

3.3.2 Sets 8 and 9 (discrete choice, price varied, after priming)

To further carve out the priming effect, the respondents were asked to choose between two alternatives in two sets. In set 8, alternative P was cheaper by EUR 85, but did not have the four comfort aspects, while alternative Q had the full list of comfort and sustainability aspects already discussed in set 6. In set 9, alternative S was cheaper and did not have the four sustainability aspects, while alternative R had both comfort and sustainability topics.

Table 69: Sets 8 and 9: Results

Alternative	Group A (primed towards comfort)	Group B (primed towards sustain-ability)
Set 8 (χ^2(2, N=600)=16.9, p < .001)		
P (comfort not included, EUR 795, recommendation 91%)	15.0	26.7
Q (comfort included, EUR 880, recommendation 91%)	77.0	61.7
none of the two	8.0	11.7
Set 9 (χ^2(2, N=600)=3.9, p = .145)		
R (sustainability included, EUR 880, recommendation 91%)	54.3	56.0
S (sustainability not included, EUR 795, recommendation 91%)	37.7	32.0
none of the two	8.0	12.0

As can be seen from Table 69 (upper half), in this format the preference for the four comfort aspects is massively higher even for a more than 10% higher price. Furthermore, in group A, which was primed towards comfort aspects, preference for the comfortable alternative is again higher compared to group B (p < .001).

In the lower half of Table 69 we can see, that preference also for the four sustainability aspects is higher compared to the cheaper alternative. However, preferences are not as pronounced as in set 7, and differences between the two groups are not statistically significant, although preference for the less sustainable alternative is somewhat lower in group B than in group A. Again, in group B, avoidance (“none of the two”) is higher than in group A.

To check further for attitude differences between the two groups, we split respondents into two additional groups with reference to the attitude scale. Thus, we construct four groups (Table 70). Data reveal that priming towards sustainability seems to work specifically in the group that has a positive attitude towards sustainability (choice for the sustainably alternative: 64.1%), while priming in the group with no positive attitude towards sustainability yields no higher preference rates than in group A, which was primed towards comfort (47.2%). Actually, respondents in the group which was primed towards comfort, but who had a positive attitude yield higher preference rates (59.3%). This would imply, that attitude is more important than priming.

Table 70: Sets 8 and 9, Priming-groups, attitudes and discrete choice

	Group A (primed for comfort), **positive** attitude towards sustainability	**Group B** (primed for sustainability), **positive** attitude towards sustainability	**Group A** (primed for comfort), **no positive** attitude towards sustainability	**Group B** (primed for sustainability), **no positive** attitude towards sustainability
n=	150	156	150	144
Set 8, $\chi^2(6, N=600) = 23.717$, $p = .001$				
P (comfort not included, EUR 795, recommendation 91%)	16.7	24.4	13.3	29.2
Q (comfort included, EUR 880, recommendation 91%)	72.0	62.2	82.0	61.1
none of the two	11.3	13.5	4.7	9.7
Set 9, $\chi^2(6, N=600) = 32.316$, $p < .001$				
R (sustainability included, EUR 880, recommendation 91%)	59.3	64.1	49.3	47.2
S (sustainability not included, EUR 795, recommendation 91%)	30.0	20.5	45.3	44.4
none of the two	10.7	15.4	5.3	8.3

3.3.3 Set 10 and 11 (contingent valuation, open-ended, after priming)

The last two sets were again open-ended questions, repeating the basic setup of sets 8 and 9, only that now there was no price given for the better alternative, and asking respondents to give an appropriate price in an open-ended question.

These sets have the same need for outlier identification and careful analysis as shown above for sets 5 and 6. In this case, however, it is necessary to differentiate between the two priming groups because these will be used for analysis; treating both groups identically could lead to distortions in the analyses.

Table 71 shows the complete descriptives for the whole sample and the subgroups, Figure 19 the corresponding boxplots.

Table 71: Descriptives for Sets 10 and 11 (before outlier removal)

	Set 10	Set 10, Group A	Set 10, Group B	Set 11	Set 11, Group A	Set 11, Group B
Valid	600	300	300	600	300	300
Missing	0	0	0	0	0	0
Mean	793.6	779.8	807.4	810.5	811.1	810.0
Median	813.5	800.0	820.0	812.5	800.0	820.0
Std. Deviation	180.0	170.0	188.7	377.9	499.1	192.2
Minimum	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	2000.0	1500.0	2000.0	8880.0	8880.0	2200.0
25th percentile	795.0	750.0	795.0	795.0	750.0	795.0
75th percentile	880.0	880.0	880.0	879.8	850.0	880.0
Inter-quartile range (IQR)	85.0	130.0	85.0	84.8	100.0	85.0
Outlier threshold low		555.0	667.5		600.0	667.5
Outlier threshold high		1.075.0	1007.5		1000.0	1007.5
Cases below P25-1.5*IQR		23	33		36	33
Cases above P75+1.5*IQR		5	8		7	7
Cases in the analysis		274	262		257	260

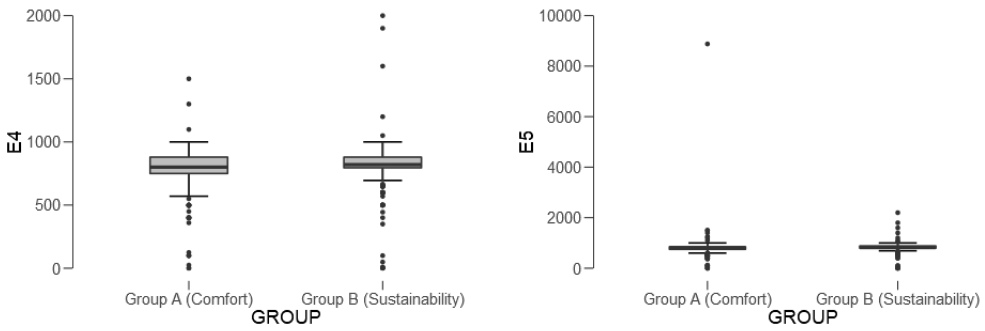

Figure 19: Boxplots for sets 10 and 11, before outlier removal (note different scales on vertical axes)

Table 72 shows the results for sets 10 and 11 after outliers have been removed. For both aspects, comfort (in set 10) and sustainability (in set 11), both groups report a higher willingness to pay than for the inferior alternative. This is in line with expectations.

In group B (the group primed towards sustainability), reported willingness to pay is higher compared to group A, and that for both the comfort and the sustainability aspects (see results of the t tests in the table, comparing the means in willingness to pay between the two groups). That is only partly in line with expectations, because willingness to pay more for the more comfortable alternative should be higher in group A (which it is) and willingness to pay more for the more sustainable alternative should be higher in group B (which it is), but

not necessarily that group B is always willing to pay more, and even more so for comfort aspects compared to sustainability aspects.

Table 72: Sets 10 and 11: Results

Alternative	Group A (EUR)	Group B (EUR)
Set 10, t(534) = 4.0, p < .001		
T (comfort not included, EUR 795, recommendation 91%)	*795*	*795*
U (comfort included, no price given, recommendation 91%)	Mean: 811.4 SD: 88.2 Median: 820.0 Skewness: -.792	Mean: 837.8 SD: 61.1 Median: 850.0 Skewness: + .147
No. of cases	274	262
Set 11, t(515) = 2.7, p = .008		
V (sustainability not included, EUR 795, recommendation 91%)	*795*	*795*
W (sustainability included, no price given, recommendation 91%)	Mean: 820.3 SD:67.6 Median: 820.0 Skewness: -.189	Mean: 835.6 SD: 62.2 Median: 830.0 Skewness: +.165
No. of cases	257	260

However, when we look at the price premiums the two groups are willing to pay for the better alternative, we see that group B, which was primed towards sustainability, is willing to pay a higher premium for both sustainability and comfort aspects compared to group A. This can be interpreted in such a way that priming for sustainability seems to raise the general willingness to pay even more than priming for comfort aspects does.

We checked this effect against the attitude towards sustainability in holiday travel, which we assessed at the beginning of the questionnaire. Table 73 shows, that willingness to pay is higher in group B (priming towards sustainability) regardless of the a priori attitude towards sustainability. Bonferroni's Post-hoc test reveals that all significant differences occur between Groups A and B and not (with one exception) within one of these groups.

Table 73: Sets 10 and 11, Priming-groups, attitudes and willingness to pay

	Group A (primed for comfort), positive attitude towards sustainability	Group B (primed for sustainability), positive attitude towards sustainability	Group A (primed for comfort), no positive attitude towards sustainability	Group B (primed for sustainability), no positive attitude towards sustainability
n=	139	138	135	124
Price for the more comfortable alternative	M=812.0 SD=93.4	M=844.3 SD=64.7	M=810.9 SD=82.8	M=830.6 SD=56.2
ANOVA	F(3,532)=6.074, p < .001			
n=	127	139	130	121
Price for the more sustainable alternative	M=828.0 SD=69.3	M=841.5 SD=68.2	M=812.8 SD=65.2	M=828.8 SD=54.2
ANOVA	F(3,513)=4.395, p = .005			

Although we saw no difference in willingness-to-pay between attitude groups *before* priming (cf. Table 64), we can see significant differences *after* priming.

4 Discussion

In this study, we implemented the priming concept within the framework of a discrete choice survey.

The results first show that a positive attitude towards sustainability does not per se lead to a higher selection probability for a product marked as "sustainable". Instead, the proportion of those who do not choose either option will double, from 8.8% (if there is no positive attitude towards sustainability) to 17.6% (if there is a positive attitude towards sustainability). This shift in shares is at the expense of the worse alternative. We find a similar effect in terms of willingness to pay if the more sustainable alternative is approx. 10% more expensive than the less sustainable one: here too, the proportion of those who do not choose either of the two alternatives offered rises from 6.1% to 11.8%, i.e. to almost double.

It can be deduced from this that his positive attitude towards a more sustainable holiday alone does not lead to the choice of a more sustainable alternative. To a certain extent, however, it delays decision-making and produces uncertainty. In a sense, this creates a "decision gap" in which some holidaymakers are looking for further orientation. The outcome of this further orientation process is initially uncertain, the pendulum could swing in one direction or the other - or a completely new alternative is sought.

One way to let the pendulum swing in the desired direction could be to change the information environment. We influenced half of the subjects towards comfort and half towards sustainability ("primed") by asking them only about their preferences for positive aspects of comfort or sustainability and their rejection of negative aspects of comfort or sustainability. In other words, we have not "taught" the test persons that comfort or sustainability are good

and desirable. We have also not warned of the negative consequences of lack of comfort or sustainability or pointed out that certain key information such as comfort stars or sustainability labels should also be respected. We have only asked questions that keep the respective topic, comfort or sustainability, present in the interviewees' minds and thus tried to "push" the preference judgments in one direction in each case. We assume that the respondents are more aware of these aspects in the second part of the study than the respondents in the opposing group.

As a result, priming works in both directions. The group, which has been shaped towards sustainability, shows higher preferences for sustainability aspects, the other group shows higher preferences for comfort aspects. The effect of priming is even slightly higher than the effect of a positive basic attitude towards sustainability. However, the alternative behaviour (i.e. the selection of neither of the two alternatives offered) is still present, albeit in a weakened form.

In terms of willingness to pay, however, the priming works somewhat less well for sustainability than for comfort: although the preference for a more sustainable but more expensive alternative is increasing in the sustainability group, it is by no means to the same extent as in the comfort group. The choice of the less sustainable alternative is decreasing in favour of uncertainty (no choice). So, if the more sustainable alternative is also associated with higher prices (in our case the price difference is again about 10%), the basic setting even has a somewhat stronger effect than priming. If one does not leave the test persons the choice between given alternatives (including the possibility to select none) but asks for an appropriate price for the better (thus here the more lasting journey), then the basic attitude works approximately as strongly as the priming.

In any case, however, the combination of a positive attitude towards sustainability and a change in the information environment leads to the highest preference rates or willingness to pay for the sustainable alternative.

For practical use, this means that simply labelling an offer is of little help. Even if there is a positive basic attitude, the award tends to lead to a kind of "queue of decisions", but not to a preference judgement. The change in the information environment, on the other hand, is showing measurable success.

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6 Annex

A1: Haben Sie in den letzten drei Jahren eine oder mehrere Urlaubsreisen zu den folgenden Reisezielen unternommen?

[Antworten randomisieren]

1. Ans Mittelmeer
2. Innerhalb Deutschlands
3. In europäische Länder (ohne Mittelmeer)
4. In Länder außerhalb Europas (ohne Mittelmeer)
5. Nichts davon trifft zu

A2: Kommt in den nächsten drei Jahren eine Urlaubsreise in die folgenden Reiseziele für Sie generell in Frage?

[Antworten randomisieren]

1. Ans Mittelmeer
2. Innerhalb Deutschlands
3. In europäische Länder (ohne Mittelmeer)
4. In Länder außerhalb Europas (ohne Mittelmeer)
5. Nichts davon trifft zu

Screener

[Wenn Mittelmeer weder in Frage A1 noch in Frage A2 genannt: Screen Out]

B1: Zu Beginn geht es um ihre Wünsche, wenn Sie Urlaubsreisen unternehmen. Bitte geben Sie an, inwieweit die folgenden Sätze für Sie persönlich zutreffen. Sie können antworten mit 1 = trifft voll und ganz zu bis 5 = trifft ganz und gar nicht zu. Mit den Werten dazwischen können Sie Ihre Meinung abstufen.

[Antworten randomisieren]

1. Ich organisiere meinen Urlaub am liebsten ganz auf eigene Faust, um unabhängig zu sein und meinen Urlaub möglichst individuell gestalten zu können
2. Ich buche am liebsten eine organisierte Reise, wo Anreise und Unterkunft organisiert sind und in einem Paket zu einem festen Preis angeboten werden
3. Ich buche am liebsten eine Baustein-/Modulreise, wo ich alle Leistungen individuell zusammenstellen und dadurch den Preis beeinflussen kann
4. Mein Urlaub sollte so preiswert wie möglich sein, eine einfache, aber saubere Unterkunft reicht mir vollkommen
5. In meinem Urlaub habe ich es am liebsten richtig luxuriös, auch wenn das nicht ganz billig ist, das gilt auch für meine Unterkunft (z. B. 5 Sterne-Hotels und mehr)
6. In meinem Urlaub bevorzuge ich die Mittelklasse bis Komfortklasse, lebe also weder besonders luxuriös noch besonders sparsam
7. Mein Urlaub soll möglichst ökologisch verträglich, ressourcenschonend und umweltfreundlich sein.
8. Mein Urlaub soll möglichst sozial verträglich sein (d. h. faire Arbeitsbedingungen fürs Personal und Respektieren der einheimischen Bevölkerung).
9. Meine Unterkunft soll barrierefrei sein
10. Ich plane meinen Urlaub im Vorfeld sehr genau
11. Ich habe aufgrund besonderer Bedürfnisse spezielle Anforderungen an die Unterkunft, das Verkehrsmittel usw.

Intro: **Bitte stellen Sie sich vor: Sie haben einen Urlaub am Mittelmeer geplant und haben sich schon über mögliche Reisen informiert. Reiseziel (Mallorca) und der Zeitpunkt für Ihre einwöchige Reise stehen fest. Im Internet sehen Sie bei verschiedenen Reiseveranstaltern zwei Angebote für Urlaubsreisen, die zu Ihrem Wunschtermin noch verfügbar sind. Bitte lesen Sie die Informationen zu jeder Reise sorgfältig und entscheiden Sie sich dann für das Angebot des Reiseveranstalters, das Sie am ehesten buchen würden. Wenn die beiden Angebote überhaupt nicht in Frage kommen, können Sie auch „keines buchen" auswählen, aber im Normalfall sollten Sie sich zwischen den beiden Angeboten entscheiden können.**

C1: Hier kommen die ersten beiden Angebote. Welches würden Sie buchen?

[PROG: jeweils 50% der Probanden erhalten zufällig Kartenversion a oder b]

Veranstalter A

MALLORCA
CALA RAJADA

Hotel
Green Garden ****

Weiterempfehlung 83%

EUR 880
pro Woche

Modernes Design und ausgezeichneter Service für Aktive und Wellnessbegeisterte! Ein hochwertiges Wellnesscenter mit Dampfbad und Whirlpool, sowie ein vielfältiges Freizeit- und Unterhaltungsangebot machen Urlaub hier besonders.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Sport und Wellness inklusive

Veranstalter B

MALLORCA
CALA RAJADA

Hotel
El Mirador****

Weiterempfehlung 91%

EUR 880
pro Woche

Das im Designstil eingerichtete Ferienhotel ist nur durch die Uferpromenade vom Meer getrennt, auf einer felsigen Landzunge. In der Nähe: Strand „Cala Agulla" (feinsandig, flach abfallend, öffentlich).

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Karte C1a

Veranstalter A

MALLORCA
CALA RAJADA

Hotel
Green Garden ****

Weiterempfehlung 83%

EUR 880
pro Woche

Modernes Design und ausgezeichneter Service für Aktive und Wellnessbegeisterte! Ein hochwertiges Wellnesscenter mit Dampfbad und Whirlpool, sowie ein vielfältiges Freizeit- und Unterhaltungsangebot machen Urlaub hier besonders.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Sport und Wellness inklusive

Veranstalter B

MALLORCA
CALA RAJADA

Hotel
El Mirador****

Weiterempfehlung 91%

EUR 880
pro Woche

In der Nähe zur Cala Rajada gelegen und im Villagestil erbaute Hotelanlage. Strand „Cala Agulla": Sand, feinsandig, flach abfallend, Bucht, öffentlich.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Karte C1b

[Antwortoptionen]

1. Veranstalter A
2. Veranstalter B
3. Die beiden Angebote kommen unter gar keinen Umständen für mich in Frage

C2: Und welches Angebot würden Sie hier buchen?

[PROG: jeweils 50% der Probanden erhalten zufällig Kartenversion a oder b]

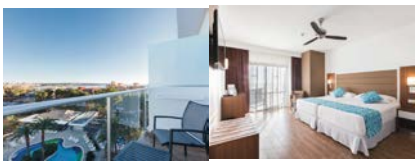
Veranstalter C

MALLORCA
CALA RAJADA

Hotel
Bravo Blue ****

Weiterempfehlung 83%

EUR 880
pro Woche



In der Nähe zur Cala Rajada gelegene Hotelanlage. Strand „Cala Agulla": Sand, feinsandig, flach abfallend, Bucht, öffentlich.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

A
Beste Klimaeffizienz!

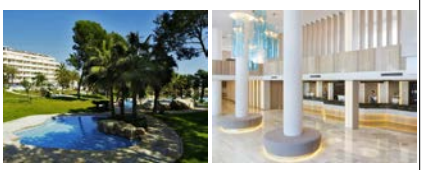
Veranstalter D

MALLORCA
CALA RAJADA

Hotel
El Mirador****

Weiterempfehlung 91%

EUR 880
pro Woche



Das komfortable Ferienresort besticht durch die weitläufige und attraktiv gestaltete Gartenanlage.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

D

Karte C2a

Veranstalter C

MALLORCA
CALA RAJADA

Hotel
Bravo Blue ****

Weiterempfehlung 83%

EUR 880
pro Woche

Das komfortable Ferienresort besticht durch die weitläufige und attraktiv gestaltete Gartenanlage.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Beste Klimaeffizienz!

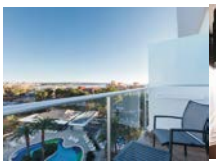
Veranstalter D

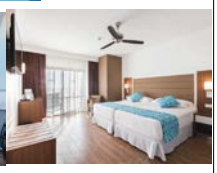
MALLORCA
CALA RAJADA

Hotel
El Mirador****

Weiterempfehlung 91%

EUR 880
pro Woche





In der Nähe zur Cala Rajada gelegene Hotelanlage. Strand „Cala Agulla“: Sand, feinsandig, flach abfallend, Bucht, öffentlich.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Karte C2b

[Antwortoptionen]

1. Veranstalter C
2. Veranstalter D
3. Die beiden Angebote kommen unter gar keinen Umständen für mich in Frage

C3: Und welches Angebot würden Sie hier buchen?

[PROG: jeweils 50% der Probanden erhalten zufällig Kartenversion a oder b]

Veranstalter E

MALLORCA
CALA RAJADA

Hotel
Mallorca Mar ****

Weiterempfehlung 91%

EUR 880
pro Woche

Modernes Design und ausgezeichneter Service für Aktive und Wellnessbegeisterte! Ein hochwertiges Wellnesscenter mit Dampfbad und Whirlpool, sowie ein vielfältiges Freizeit- und Unterhaltungsangebot machen Urlaub hier besonders.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Sport und Wellness inklusive

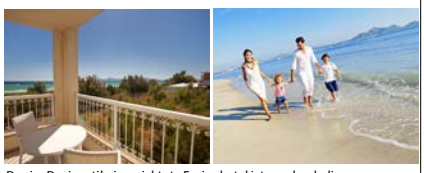
Veranstalter F

MALLORCA
CALA RAJADA

Hotel
Playa Garden ****

Weiterempfehlung 91%

EUR 795
pro Woche

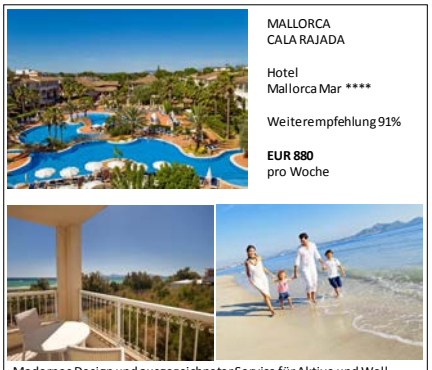


Das im Designstil eingerichtete Ferienhotel ist nur durch die Uferpromenade vom Meer getrennt. Die Strandlage sowie die große Poollandschaft bieten beste Voraussetzungen für einen entspannten Badeurlaub.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Karte C3a

Veranstalter E



MALLORCA
CALA RAJADA

Hotel
Mallorca Mar ****

Weiterempfehlung 91%

EUR 880
pro Woche

Modernes Design und ausgezeichneter Service für Aktive und Wellnessbegeisterte! Ein hochwertiges Wellnesscenter mit Dampfbad und Whirlpool, sowie ein vielfältiges Freizeit- und Unterhaltungsangebot machen Urlaub hier besonders.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Sport und Wellness inklusive

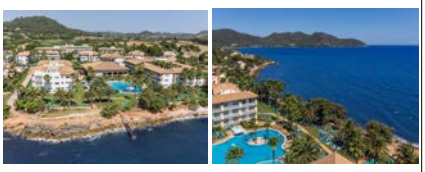
Veranstalter F

MALLORCA
CALA RAJADA

Hotel
Playa Garden ****

Weiterempfehlung 91%

EUR 795
pro Woche



Das im Designstil eingerichtete Ferienhotel ist nur durch die Uferpromenade vom Meer getrennt. Die Strandlage sowie die große Poollandschaft bieten beste Voraussetzungen für einen entspannten Badeurlaub.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Karte C3b

[Antwortoptionen]

1. Veranstalter E
2. Veranstalter F
3. **Die beiden Angebote kommen unter gar keinen Umständen für mich in Frage**

C4: Und welches Angebot würden Sie hier buchen?

[PROG: jeweils 50% der Probanden erhalten zufällig Kartenversion a oder b]

Veranstalter G

Veranstalter H

Karte C4a

Veranstalter G

Veranstalter H

Karte C4b

[Antwortoptionen]

1. Veranstalter G
2. Veranstalter H
3. Die beiden Angebote kommen unter gar keinen Umständen für mich in Frage

C5: Zum Schluss dieser Runde sehen Sie noch einmal zwei Angebote. Eines hat einen Preis, beim zweiten fehlt der Preis. Welchen Preis würden Sie für das zweite Angebot angemessen finden? Wie hoch dürfte der Preis höchstens sein, damit Sie das Angebot buchen?

[PROG: jeweils 50% der Probanden erhalten zufällig Kartenversion a oder b]

Veranstalter J

MALLORCA
CALA RAJADA

Hotel
Mallorca Mar ****

Weiterempfehlung 91%

EUR ???
pro Woche

Modernes Design und ausgezeichneter Service für Aktive und Wellnessbegeisterte! Ein hochwertiges Wellnesscenter mit Dampfbad und Whirlpool, sowie ein vielfältiges Freizeit- und Unterhaltungsangebot machen Urlaub hier besonders.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Sport und Wellness inklusive

Veranstalter K

MALLORCA
CALA RAJADA

Hotel
Playa Garden ****

Weiterempfehlung 91%

EUR 795
pro Woche

Das im Designstil eingerichtete Ferienhotel ist nur durch die Uferpromenade vom Meer getrennt. Die Strandlage sowie die große Poollandschaft bieten beste Voraussetzungen für einen entspannten Badeurlaub.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Karte C5a

Veranstalter J

MALLORCA
CALA RAJADA

Hotel
Mallorca Mar ****

Weiterempfehlung 91%

EUR ???
pro Woche

Modernes Design und ausgezeichneter Service für Aktive und Wellnessbegeisterte! Ein hochwertiges Wellnesscenter mit Dampfbad und Whirlpool, sowie ein vielfältiges Freizeit- und Unterhaltungsangebot machen Urlaub hier besonders.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Sport und Wellness inklusive

Veranstalter K

MALLORCA
CALA RAJADA

Hotel
Playa Garden ****

Weiterempfehlung 91%

EUR 795
pro Woche

Das im Designstil eingerichtete Ferienhotel ist nur durch die Uferpromenade vom Meer getrennt. Die Strandlage sowie die große Poollandschaft bieten beste Voraussetzungen für einen entspannten Badeurlaub.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Karte C5b

Bitte tragen Sie hier Ihren Preis ein:

C6: Und hier noch einmal die gleiche Frage: Wie hoch dürfte der Preis höchstens sein, damit Sie das Angebot buchen?

[PROG: jeweils 50% der Probanden erhalten zufällig Kartenversion a oder b]

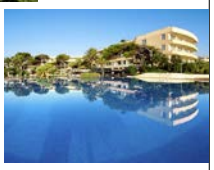
Veranstalter L

MALLORCA
CALA RAJADA

Hotel
Parc Natural ****

Weiterempfehlung 91%

EUR ???
pro Woche



Lassen Sie es sich gut gehen in einem Hotel, das durch die einzigartige Nähe zum Meer besticht und sowohl Groß als auch Klein begeistert.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Beste Klimaeffizienz!

Veranstalter M

MALLORCA
CALA RAJADA

Hotel
Natura Playa ****

Weiterempfehlung 91%

EUR 795
pro Woche

Umgeben von wunderschöner Natur kann man hier herrlich abschalten und die traumhaften Sonnenaufgänge bei einem Strandspaziergang genießen.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Karte C6a

Veranstalter L

MALLORCA
CALA RAJADA

Hotel
Parc Natural ****

Weiterempfehlung 91%

EUR ???
pro Woche

Umgeben von wunderschöner Natur kann man hier herrlich abschalten und die traumhaften Sonnenaufgänge bei einem Strandspaziergang genießen.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Beste Klimaeffizienz!

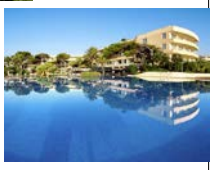
Veranstalter M

MALLORCA
CALA RAJADA

Hotel
Natura Playa ****

Weiterempfehlung 91%

EUR 795
pro Woche



Lassen Sie es sich gut gehen in einem Hotel, das durch die einzigartige Nähe zum Meer besticht und sowohl Groß als auch Klein begeistert.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort

Karte C6b

Bitte tragen Sie hier Ihren Preis ein:

Primer Version A, für die Gruppe A

50% der Probanden werden zufällig der Gruppe A zugewiesen

Nun kommen ein paar allgemeine Fragen zu Ihrem Urlaub.

D1a: Wie wichtig sind Ihnen die folgenden Aspekte, wenn Sie eine Urlaubsreise in einem Hotel über einen Reiseveranstalter buchen? Sie können jeweils antworten mit 1 = „sehr wichtig“ bis 5 = „ganz und gar nicht wichtig“.

1. Dass das Personal sehr freundlich ist
2. Dass das Hotel von vielen anderen Gästen weiterempfohlen wird
3. Dass das Hotel einen möglichst günstigen Preis hat
4. Dass die letzte Renovierung noch nicht lange her ist
5. Ein leckeres Frühstück
6. Dass das Hotel in einer schönen Landschaft liegt
7. Dass man möglichst viel für sein Geld bekommt
8. Dass man ein wenig verwöhnt wird

D2a: Hin und wieder wird ja über negative Erfahrungen im Urlaub berichtet, vielleicht haben Sie davon auch schon gehört. Wie ist Ihre Meinung zu den folgenden Aspekten? Würden Sie so etwas akzeptieren oder eher nicht? Sie können jeweils antworten mit 1 = „nicht so schlimm“ bis 5 = „würde ich auf keinen Fall akzeptieren/buchen“.

1. Mangelnde Sauberkeit
2. Unfreundliches Personal/schlechter Service
3. Angekündigte Baustelle neben dem Hotel
4. All-Inclusive-Urlaub, bei dem ich einige Getränke extra bezahlen muss
5. Flugverspätung von mehr als einer Stunde beim Hinflug
6. Flugverspätung von mehr als einer Stunde beim Rückflug
7. Hotelwechsel wegen Überbuchung
8. Zu wenige Liegen am Pool
9. Zimmer ohne Meerblick trotz Zusicherung
10. Nicht funktionierende Sporteinrichtungen

Primer Version B, für die Gruppe B

50% der Probanden werden zufällig der Gruppe zugewiesen

Nun kommen ein paar allgemeine Fragen zu Ihrem Urlaub.

D1b: Wie wichtig sind Ihnen die folgenden Aspekte, wenn Sie eine Urlaubsreise buchen? Sie können jeweils antworten mit 1 = „sehr wichtig“ bis 5 = „ganz und gar nicht wichtig“.

1. Dass für den Flug eine Kompensation der CO2-Emission erfolgt
2. Dass die Hotelangestellten einen Mindestlohn von EUR 8,84 (wie in Deutschland) erhalten
3. Dass die Energie für Pool und Hotel möglichst aus erneuerbarer Energie (Solar/ Wind/Erdwärme) gewonnen wird
4. Dass der Wasserverbrauch möglichst gering ist, gerade in warmen Ländern
5. Dass zu Müllvermeidung Plastikverpackungen nur dort benutzt werden, wo aus hygienischen Gründen vorgeschrieben.
6. Dass möglichst viele Lebensmittel aus der Region stammen und nicht importiert werden
7. Dass möglichst die Einheimischen vom Tourismus profitieren und die Gewinne nicht ins Ausland fließen
8. Dass das Hotel eine gute Klimaeffizienzklasse hat und darüber informiert

D2b: In letzter Zeit wird ja viel über negative Folgen des Tourismus berichtet, vielleicht haben Sie davon auch schon gehört. Wie ist Ihre Meinung zu den folgenden Aspekten: Würden Sie so etwas akzeptieren oder eher nicht? Sie können jeweils antworten mit 1 = „nicht so schlimm/beeinflusst mich nicht“ bis 5 = „würde ich auf keinen Fall akzeptieren/buchen“.

1. Hotels, in denen die Angestellten schlecht bezahlt oder sogar ausgebeutet werden
2. Reiseziele, die stark überlaufen sind (sogenannte „Touristenhochburgen“)
3. Hotels, die keinen Wert auf Energiesparen legen
4. Flugzeuge, die in besonders klimaschädlichen Höhen fliegen
5. Lebensmittel überwiegend aus Massentierhaltung
6. Einzeln plastikverpackte Lebensmittel beim Frühstück (Butter, Marmelade etc.)
7. Reisen, bei denen mehr CO2 produziert wird als nötig
8. Reiseziele, in denen die Entsorgung von Müll nicht geregelt ist.

E1: Bitte stellen Sie sich wieder vor: Sie haben einen Urlaub am Mittelmeer geplant und haben sich schon über mögliche Reisen informiert. Reiseziel (Mallorca) und der Zeitpunkt für Ihre einwöchige Reise stehen fest. Im Internet sehen Sie bei verschiedenen Reiseveranstaltern zwei Angebote für Urlaubsreisen, die zu Ihrem Wunschtermin noch verfügbar sind. Bitte lesen Sie die Informationen zu jeder Reise sorgfältig und entscheiden Sie sich dann für das Angebot des Reiseveranstalters, das Sie am ehesten buchen würden. Wenn die beiden Angebote überhaupt nicht in Frage kommen, können Sie auch „keines buchen“ auswählen, aber im Normalfall sollten Sie sich zwischen den beiden Angeboten entscheiden können.

Hier kommen die ersten beiden Angebote. Welches würden Sie buchen?

[PROG: jeweils 50% der Probanden erhalten zufällig Kartenversion a oder b]

Veranstalter N

MALLORCA
CALA RAJADA

Hotel
Green Garden ****

Weiterempfehlung 91%


EUR 880
pro Woche

Umgeben von wunderschöner Natur kann man hier herrlich abschalten und die traumhaften Sonnenaufgänge bei einem Strandspaziergang genießen.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☐ ~~Geräumige Zimmer mit Meerblick~~
- ☐ ~~All-Inclusive-Plus: Alkoholische Getränke und Minibar~~
- ☐ ~~Flugzeitengarantie: Morgens hin, abends zurück~~
- ☐ ~~Sport und Wellness inklusive~~
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Veranstalter O

MALLORCA
CALA RAJADA

Hotel
Green Garden ****

Weiterempfehlung 91%


EUR 880
pro Woche

Lassen Sie es sich gut gehen in einem Hotel, das durch die einzigartige Nähe zum Meer besticht und sowohl Groß als auch Klein begeistert.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nicht-alkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☐ ~~Atmosfair CO2-Kompensation für den Flug enthalten~~
- ☐ ~~Mindestlohn EUR 8,84 (wie in Deutschland)~~
- ☐ ~~Energie für Pool und Hotel: Solar/Wind/Erdwärme~~
- ☐ ~~Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region~~

Karte E1a

Veranstalter N

MALLORCA
CALA RAJADA

Hotel
Garden Playa ****

Weiterempfehlung 91%


EUR 880
pro Woche

Lassen Sie es sich gut gehen in einem Hotel, das durch die einzigartige Nähe zum Meer besticht und sowohl Groß als auch Klein begeistert.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☐ ~~Geräumige Zimmer mit Meerblick~~
- ☐ ~~All-Inclusive-Plus: Alkoholische Getränke und Minibar~~
- ☐ ~~Flugzeitengarantie: Morgens hin, abends zurück~~
- ☐ ~~Sport und Wellness inklusive~~
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Veranstalter O

MALLORCA
CALA RAJADA

Hotel
Orient Playa ****

Weiterempfehlung 91%


EUR 880
pro Woche

Umgeben von wunderschöner Natur kann man hier herrlich abschalten und die traumhaften Sonnenaufgänge bei einem Strandspaziergang genießen.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nicht-alkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☐ ~~Atmosfair CO2-Kompensation für den Flug enthalten~~
- ☐ ~~Mindestlohn EUR 8,84 (wie in Deutschland)~~
- ☐ ~~Energie für Pool und Hotel: Solar/Wind/Erdwärme~~
- ☐ ~~Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region~~

Karte E1b

[Antwortoptionen]

1. Veranstalter N
2. Veranstalter O
3. Die beiden Angebote kommen unter gar keinen Umständen für mich in Frage

E2: Hier sehen Sie zwei neue Angebote, die sich wiederum etwas unterscheiden Welches würden Sie buchen?

[PROG: jeweils 50% der Probanden erhalten zufällig Kartenversion a oder b]

Veranstalter P

MALLORCA
CALA BONA

Hotel
Festival Bahia ****

Weiterempfehlung 91%

EUR 795
pro Woche

Das designorientierte Haus ist die perfekte Adresse für alle, die Wert auf modernen Komfort legen. Hier genießt man die Aussicht auf die schöne, weitläufige Bucht und erlebt die vielen Erholungsmöglichkeiten

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☐ ~~Geräumige Zimmer mit Meerblick~~
- ☐ ~~All-Inclusive-Plus: Alkoholische Getränke und Minibar~~
- ☐ ~~Flugzeitengarantie: Morgens hin, abends zurück~~
- ☐ ~~Sport und Wellness inklusive~~
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Veranstalter Q

MALLORCA
CALA RAJADA

Hotel
Bahia del Mar ****

Weiterempfehlung 91%

EUR 880
pro Woche

Der spektakuläre Blick auf die wunderschöne Bucht ist nur eines der Highlights. Eine hervorragende Küche sowie die stilvolle Ausstattung machen den Urlaub hier perfekt.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nicht-alkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Karte E2a

Veranstalter P

MALLORCA
CALA BONA

Hotel
Festival Bahia ****

Weiterempfehlung 91%

EUR 795
pro Woche

Der spektakuläre Blick auf die wunderschöne Bucht ist nur eines der Highlights. Eine hervorragende Küche sowie die stilvolle Ausstattung machen den Urlaub hier perfekt.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☐ ~~Geräumige Zimmer mit Meerblick~~
- ☐ ~~All-Inclusive-Plus: Alkoholische Getränke und Minibar~~
- ☐ ~~Flugzeitengarantie: Morgens hin, abends zurück~~
- ☐ ~~Sport und Wellness inklusive~~
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Veranstalter Q

MALLORCA
CALA RAJADA

Hotel
Bahia del Mar ****

Weiterempfehlung 91%

EUR 880
pro Woche

Das designorientierte Haus ist die perfekte Adresse für alle, die Wert auf modernen Komfort legen. Hier genießt man die Aussicht auf die schöne, weitläufige Bucht und erlebt die vielen Erholungsmöglichkeiten

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nicht-alkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Karte E2b

[Antwortoptionen]

1. Veranstalter P
2. Veranstalter Q
3. **Die beiden Angebote kommen unter gar keinen Umständen für mich in Frage**

E3: Nun noch eine weitere Auswahl zwischen zwei Angeboten. Welches würden Sie buchen?

[PROG: jeweils 50% der Probanden erhalten zufällig Kartenversion a oder b]

Veranstalter R

MALLORCA
CALA MESQUIDA

Hotel
Mesquida Zafira ****

Weiterempfehlung 91%

EUR 880
pro Woche

Urlaub oberhalb der traumhaften Badebucht Cala Mesquida! Die Clubanlage ist im mallorquinischen Stil erbaut.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nicht-alkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Veranstalter S

MALLORCA
CALA MESQUIDA

Hotel
Cala del Sur ****

Weiterempfehlung 91%

EUR 795
pro Woche

In direkter Lage oberhalb der Cala Mesquida gelegen, sowie dem Naturschutzgebiet "Parque de Llevant".

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☐ ~~Atmosfair CO2-Kompensation für den Flug enthalten~~
- ☐ ~~Mindestlohn EUR 8,84 (wie in Deutschland)~~
- ☐ ~~Energie für Pool und Hotel: Solar/Wind/Erdwärme~~
- ☐ ~~Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region~~

Karte E3a

Veranstalter R

MALLORCA
CALA MESQUIDA

Hotel
Mesquida Zafira ****

Weiterempfehlung 91%

EUR 880
pro Woche

In direkter Lage oberhalb der Cala Mesquida gelegen, sowie dem Naturschutzgebiet "Parque de Llevant".

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nicht-alkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Veranstalter S

MALLORCA
CALA MESQUIDA

Hotel
Cala del Sur ****

Weiterempfehlung 91%

EUR 795
pro Woche

Urlaub oberhalb der traumhaften Badebucht Cala Mesquida! Die Clubanlage ist im mallorquinischen Stil erbaut.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☐ ~~Atmosfair CO2-Kompensation für den Flug enthalten~~
- ☐ ~~Mindestlohn EUR 8,84 (wie in Deutschland)~~
- ☐ ~~Energie für Pool und Hotel: Solar/Wind/Erdwärme~~
- ☐ ~~Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region~~

Karte E3b

[Antwortoptionen]

1. Veranstalter R
2. Veranstalter S
3. Die beiden Angebote kommen unter gar keinen Umständen für mich in Frage

E4: Zum Schluss dieser Runde sehen Sie noch einmal zwei Angebote. Eines hat einen Preis, beim zweiten fehlt der Preis. Welchen Preis würden Sie für das zweite Angebot angemessen finden? Wie hoch dürfte der Preis höchstens sein, damit Sie das Angebot buchen?

[PROG: jeweils 50% der Probanden erhalten zufällig Kartenversion a oder b]

Veranstalter T

MALLORCA
CALA BONA

Hotel
Bahia Mar ****

Weiterempfehlung 91%

EUR 795
pro Woche

In ruhiger Lage, direkt am langen Sandstrand gelegen, bietet das geschmackvoll renovierte Hotel Doppelzimmer und Suiten für erholsame Urlaubstage. Vom Balkon aus genießt man den herrlichen Blick auf den Pinienhain oder auf das funkelnde Meer.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☐ ~~Geräumige Zimmer mit Meerblick~~
- ☐ ~~All-Inclusive-Plus: Alkoholische Getränke und Minibar~~
- ☐ ~~Flugzeitengarantie: Morgens hin, abends zurück~~
- ☐ ~~Sport und Wellness inklusive~~
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Veranstalter U

MALLORCA
CALA RAJADA

Hotel
Bahia Cala ****

Weiterempfehlung 91%

EUR ???
pro Woche

Ruhig gelegen, an der Strandpromenade, In direkter Lage zum Naturschutzgebiet Punta de n'Amer. Genießen Sie ein entspanntes Bad im Meer oder einen ausgedehnten Spaziergang am langen Sandstrand, der direkt vor der Haustür liegt.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nicht-alkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Karte E4a

Veranstalter T

MALLORCA
CALA BONA

Hotel
Bahia Mar ****

Weiterempfehlung 91%

EUR 795
pro Woche

Ruhig gelegen, an der Strandpromenade, In direkter Lage zum Naturschutzgebiet Punta de n'Amer. Genießen Sie ein entspanntes Bad im Meer oder einen ausgedehnten Spaziergang am langen Sandstrand, der direkt vor der Haustür liegt.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☐ ~~Geräumige Zimmer mit Meerblick~~
- ☐ ~~All-Inclusive-Plus: Alkoholische Getränke und Minibar~~
- ☐ ~~Flugzeitengarantie: Morgens hin, abends zurück~~
- ☐ ~~Sport und Wellness inklusive~~
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Veranstalter U

MALLORCA
CALA RAJADA

Hotel
Bahia Cala ****

Weiterempfehlung 91%

EUR ???
pro Woche

In ruhiger Lage, direkt am langen Sandstrand gelegen, bietet das geschmackvoll renovierte Hotel Doppelzimmer und Suiten für erholsame Urlaubstage. Vom Balkon aus genießt man den herrlichen Blick auf den Pinienhain oder auf das funkelnde Meer.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nicht-alkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Karte E4b

Bitte tragen Sie hier Ihren Preis ein:

E5: Und hier noch einmal die gleiche Frage: Wie hoch dürfte der Preis höchstens sein, damit Sie das Angebot buchen?

[PROG: jeweils 50% der Probanden erhalten zufällig Kartenversion a oder b]

Veranstalter V

MALLORCA
CALA D'OR

Hotel
Puna Estany ****

Weiterempfehlung 91%

EUR 795
pro Woche

Die beliebte Hotelanlage liegt inmitten einer liebevoll gepflegten Gartenanlage direkt auf den Klippen am Meer.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☐ ~~Atmosfair CO2-Kompensation für den Flug enthalten~~
- ☐ ~~Mindestlohn EUR 8,84 (wie in Deutschland)~~
- ☐ ~~Energie für Pool und Hotel: Solar/Wind/Erdwärme~~
- ☐ ~~Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region~~

Veranstalter W

MALLORCA
CALA D'OR

Hotel
Punta Mandia ****

Weiterempfehlung 91%

EUR ???
pro Woche

Ruhig und oberhalb der Badebuchten Cala Mandia und Cala Estany gelegen. Der Strand ist nach ca. 300 m über Treppen zu erreichen

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nicht-alkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Karte E5a

Veranstalter V

MALLORCA
CALA D'OR

Hotel
Puna Estany ****

Weiterempfehlung 91%

EUR 795
pro Woche

Ruhig und oberhalb der Badebuchten Cala Mandia und Cala Estany gelegen. Der Strand ist nach ca. 300 m über Treppen zu erreichen

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nichtalkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☐ ~~Atmosfair CO2-Kompensation für den Flug enthalten~~
- ☐ ~~Mindestlohn EUR 8,84 (wie in Deutschland)~~
- ☐ ~~Energie für Pool und Hotel: Solar/Wind/Erdwärme~~
- ☐ ~~Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region~~

Veranstalter W

MALLORCA
CALA D'OR

Hotel
Punta Mandia ****

Weiterempfehlung 91%

EUR ???
pro Woche

Die beliebte Hotelanlage liegt inmitten einer liebevoll gepflegten Gartenanlage direkt auf den Klippen am Meer.

Urlaubscheck
- ☑ Hin- und Rückflug inkl. Zug zum Flug
- ☑ Sieben Nächte im 4-Sterne-Hotel
- ☑ Vollverpflegung (Büffet, nicht-alkoholische Getränke)
- ☑ Transfer vom und zum Hotel
- ☑ Deutschsprachige Reiseleitung vor Ort
- ☑ Geräumige Zimmer mit Meerblick
- ☑ All-Inclusive-Plus: Alkoholische Getränke und Minibar
- ☑ Flugzeitengarantie: Morgens hin, abends zurück
- ☑ Sport und Wellness inklusive
- ☑ Atmosfair CO2-Kompensation für den Flug enthalten
- ☑ Mindestlohn EUR 8,84 (wie in Deutschland)
- ☑ Energie für Pool und Hotel: Solar/Wind/Erdwärme
- ☑ Wasserverbrauch max. 80% des Durchschnitts aller Hotels in der Region

Karte E5b

Bitte tragen Sie hier Ihren Preis ein:

S1 Wie alt sind Sie? Bitte tragen Sie Ihr Alter ein.

Alter in Jahren

S2 Sind Sie männlich oder weiblich?

1. Männlich
2. Weiblich

S3 Leben Kinder bis 17 Jahre in Ihrem Haushalt?

1. Ein oder mehrere Kinder bis 17 Jahre im Haushalt
2. Keine Kinder bis 17 Jahre im Haushalt

Working Paper FINDUS 5: Field experiment

1 Online environment

As a testing environment, we chose the online information and booking platform of Vamos-Reisen, a German tour operator specialising in family holidays. Vamos offers a variety of packaged and individual trips in about 15 countries in Europe. Main target group are families with children, both small children under six years of age and also children at school-age from six years onward. Vamos offers both accommodations for families with and without day care for children and also for travellers without children.

Vamos offers all their products over their website vamos-reisen.de. The website has several sections (Figure 20). From top to bottom of the website, these are

- the *header section* showing five pictures changing every five seconds. The teaser pictures are interactive, clicking on the button in the middle of the picture brings visitors to a specific landing page deeper down in the website structure. The sequence of changing header pictures starts anew from the first picture when the main page is opened again. The last picture always relates to a specific offer which is also displayed in the teaser section. Main menu and links to the searching page and the main page are integrated into the headers.
- the *teaser section* showing nine smaller pictures focussing on various offers. Clicking on a picture opens the specific landing page.
- the *frame* showing contact information (phone number and e-mail address) and links to special functions like a catalogue request page, blog and forum, Vamos' Facebook and YouTube page and to legal information.

In addition to the header and teaser section, the website allows for other ways of navigation, among them a main menu (to be found behind the red icon in the top left corner), a trip finder ("Reisefinder", Figure 21) and interactive filters on the second level pages allowing to filter for destinations and types of board and accommodation. Furthermore, a free text search function is implemented. Unfortunately, none of the latter functions were available for the experimental design, which was therefore restricted to variations in the header and teaser section.

Figure 20: Homepage vamos-reisen.de (March 2018) with header section (top, here showing the third panel of five) and the teaser section in the middle showing nine panels

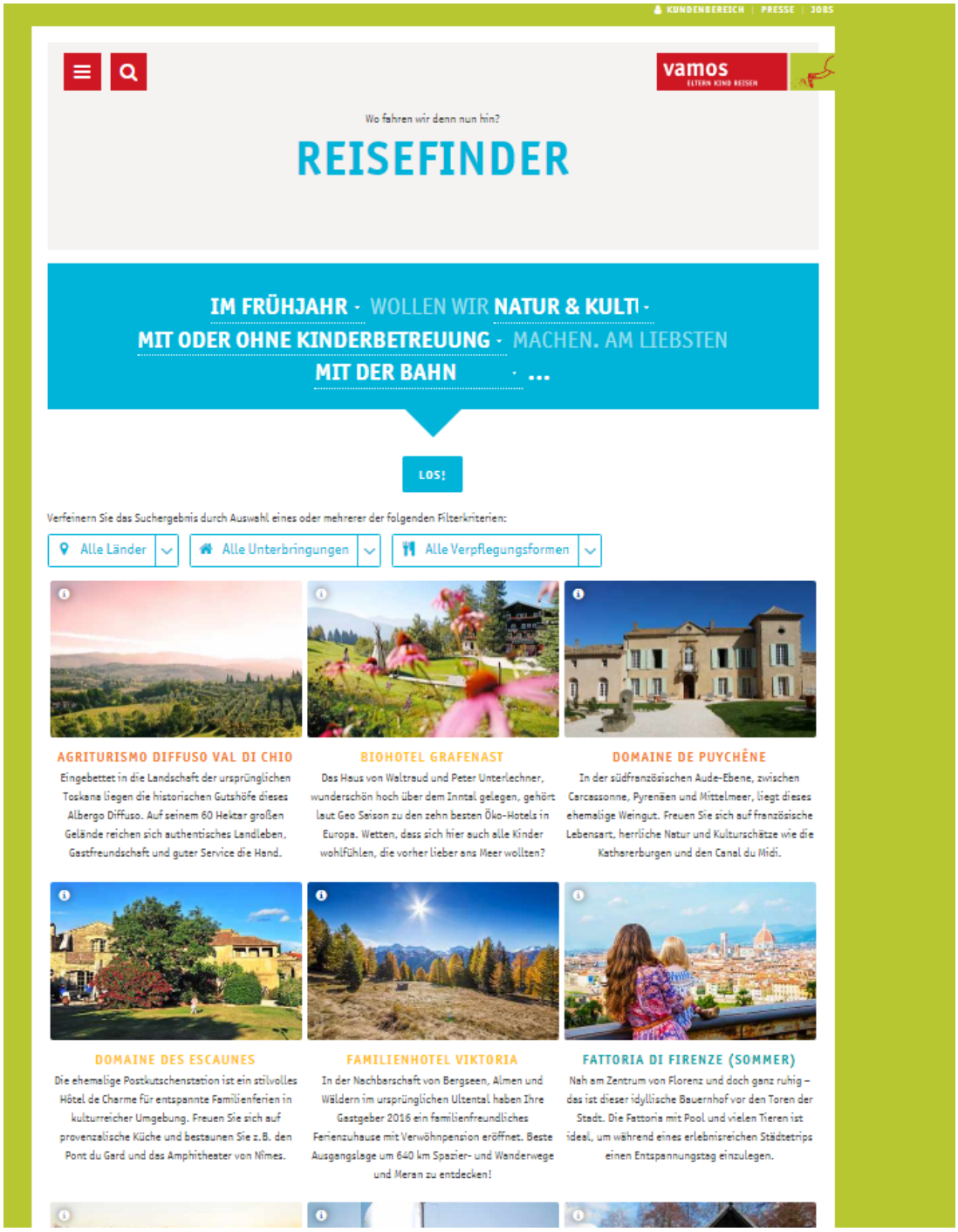


Figure 21: Trip finder (“Reisefinder”) for filtering trips by time, type and means of transport

2 Study-design, data collection and data analysis

2.1 Study design

The study design was a simple A/B-Test splitting visitor of the start page randomly into two groups and measuring click rates I both groups.

2.2 Data collection and analysis

The experiment was run over the course of two full weeks, starting on May 7, 2018 and ending on May 21, 2018, with a change of stimuli in the middle of the two weeks on May 14, 2018. A total of 8,677 visits on the starting page was recorded during the two weeks, 4,060 in the first week and 4,617 in the second week.

Data were collected directly on the web-server using a standard analysis tool (Matomo, formerly known as Piwik). Data were provided by Vamos' IT department in an aggregated form allowing to assess all necessary statistics for this analysis.

During the experiment, two spots on the starting page were systematically varied.

Firstly, in the *header section* of the website, a panel showing sustainable offers (titled "Nachhaltiger Urlaub", Figure 22) was put in the third position of the changing headers, thus adding a sixth option to the number of available headers. The sustainable panel was identical over the whole two weeks, while the other five panels were changed in the middle of the term to check for framing effects.

Secondly, in the *teaser section*, half of the respondents saw a sustainability panel and the other half a neutral panel displaying some sports activities (Figure 23).

The two positions were coupled: When the sustainability header was shown (as one of six headers), also the sustainability teaser was displayed. If the sustainability header was not shown (and thus only five headers were displayed), the sports teaser was displayed in the teaser section. This coupling, unfortunately, does not allow to assess the two variations independently from each other, but was installed due to technical restrictions nonetheless.

Figure 22: Header panel shown to half of the respondents (the other half did not see this panel)

Figure 23: Teaser panels shown in a sustainable (left) and neutral (right) format

Data were analysed using JASP 0.9 (JASP Team, 2018) and SPSS for Windows (subscription version 2018). Aggregated data were transformed into pseudo raw data sets using SPSS syntax so that a data file containing 8,677 data lines was constructed (IBM Corp., 2016, p. 50). This data file was analysed using JASP's χ^2 procedure, which was then double-checked with SPSS's χ^2 procedure. JASP's Bayesian contingency tables analysis was not used because results varied largely depending on the sampling scheme used. If a poisson sampling scheme was used (Jamil et al., 2017; Wagenmakers, Love, et al., 2017), results for Bayes factors were hardly in line with results from frequentist analysis and the experienced loot at the raw data.

3 Results

3.1 Headers

First, we assess the number of clicks in the header section. Aggregated data are shown in Table 74. It shows the number of clicks on the respective headers in absolute values and as a percentage of 4,307 (condition 1, including the sustainability header) and 4,370 (condition 0, without the sustainability header), respectively. The third header displaying the sustainability panel was only available in condition 1 and is highlighted in grey.

Table 74: Click data for the header section

Header	Condition	Rank	Clicks	in %	p, condition 0 vs.1
1	1	1	270	6,27%	.051
1	0	1	320	7,32%	
2	1	2	155	3,60%	.187
2	0	2	135	3,09%	
3	1	3	20	0,46%	-
4	1	4	85	1,97%	.035
4	0	3	116	2,65%	
5	1	5	35	0,81%	.605
5	0	4	40	0,92%	
6	1	6	20	0,46%	.028
6	0	5	37	0,85%	

p values are from χ^2 statistics comparing clicks and non-clicks by condition for n = 4,307 (condition 1), n = 4,370 (condition 0).

Firstly, it can clearly be seen that the sustainability panel (header 3) received the least number of clicks (20), together with the sixth panel in condition 1.

To assess whether the click share of the other panels depends (also) on the existence of a sustainability panel, we use a χ^2 test between conditions. The resulting p values are also displayed in Table 74. Except for headers 4 and 6, no significant differences occur.

It can also be seen that the number of clicks decreases with the rank of the panel. As stated above, the panels changed every five seconds and the sequence started at the first panel whenever the starting page was loaded. This clicking behaviour was to be expected: Obviously, the first panel has a higher chance of perception and, consequently, of getting clicked. The first reason is, that visitors to the website have to wait longer to get the later headers displayed (e.g. the fifth panel is only shown after 20 seconds) and secondly, sequence effects suggest that prior information bits receive more attention than later information bits (Montgomery & Unnava, 2009).

Thus, to control for sequence effects, we look at the rank of a panel rather than its number. For condition 1, both are identical (header 4 is shown in the fourth rank), but for condition 0 it is not (header 4 is shown at the third rank). Results are shown in Figure 24, and the gap at the third rank is clearly visible,

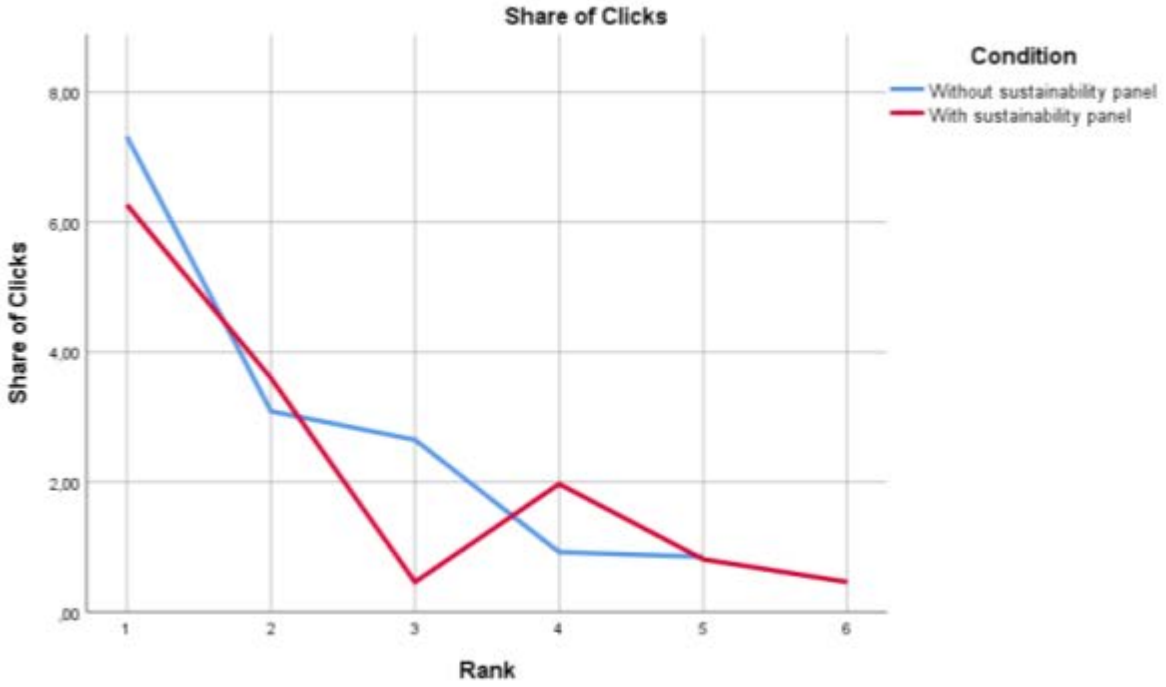


Figure 24: Share of Clicks by Rank

Additionally, we can estimate the amount of clicks that would have been expected on the third position of the sequence by way of a non-linear regression. We chose a simple logarithmic model, and results are shown in Figure 25. The model yields R^2 = .885 and F(1,9)=69.136, p = .000.

For the third rank, we can estimate an expected value of

$$ClickShare = 6.270 - 3.569 \times \ln(3) = 2.349$$

In fact, under condition 1 only 0,46% was achieved, but 2,35% was expected. Thus, sustainability underperforms by a factor of slightly less than 5.

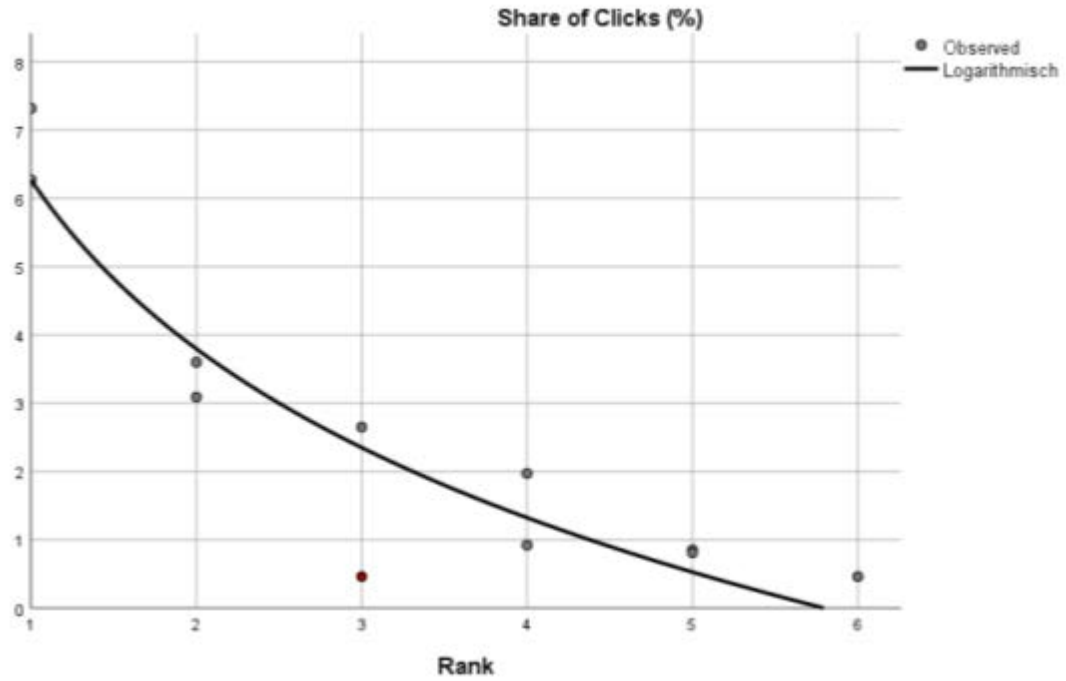


Figure 25: Share of Clicks by Rank, Logarithmic Model

3.2 Headers by week

An analysis by week reveals that click shares of the sustainability panel are 0.54% in week 1 and 0.40% in week 2. Although there are considerable differences between the other panels shown (panels 1 and 4 receive considerably more attention in week 2 compared to week 1, while panel 2 receives considerably less attention in week 2 compared to week 1), attention towards the sustainability panel is more or less unaffected and the difference is by far not statistically significant (Table 75).

Table 75: Week differences by header panel

Header	Condition	Rank	Both weeks (in %)	Week 1 (in %)	Week 2 (in %)	p Week1 vs. 2
1	1	1	6,27%	3,91%	8,41%	.000
1	0	1	7,32%	3,63%	10,48%	.000
2	1	2	3,60%	5,57%	1,81%	.000
2	0	2	3,09%	4,87%	1,57%	.000
3	1	3	0,46%	0,54%	0,40%	.502
4	1	4	1,97%	0,98%	2,88%	.000
4	0	3	2,65%	1,09%	3,99%	.000
5	1	5	0,81%	1,03%	0,62%	.138
5	0	4	0,92%	0,99%	0,85%	.616
6	1	6	0,46%	0,54%	0,40%	.502
6	0	5	0,85%	1,04%	0,68%	.190

p values are from χ^2 statistics comparing clicks and non-clicks by week for n = 2,047 (week 1, condition 1), n = 2,013 (week 1, condition 0); n = 2,260 (week 2, condition 1), n = 2,357 (week 2, condition 0).

3.3 Teasers

As for the teasers, which were displayed below the header section, we can use the same sort of basic assessment as for the headers, but this time we do need to take care of sequence ranks because all teasers were shown simultaneously on the screen. Again, condition 1 (with sustainability panel) had a total of 4,307 visits while condition 0 (with the non-sustainability panel) had 4,370 visits in total.

Table 76: Click data for the teaser section

Teaser		Category	Condition	Clicks	Click Share (%)	p between conditions
1	“Reisetipp der Woche”	Product	1	121	2.809	.340
1			0	138	3.158	
2	“Reiseziele nur Online”	Product	1	227	5.270	.974
2			0	231	5.286	
3	“Ferien unter 1000 Euro”	Product	1	261	6.060	.220
3			0	238	5.446	
4	“Familienreisen mit Kinderbetr.”	Product	1	296	6.873	.600
4			0	288	6.590	
5	“Fam.reisen ohne Knderbetr.”	Product	1	198	4.597	.064
5			0	166	3.799	
6a (sust.)	“Nachhaltiger Urlaub”	Product	1	66	1.532	.022
6b (sport)	“Sport im Urlaub”	Product	0	96	2.197	
7	“vamos Blog”	Generic	1	35	0.813	.496
7			0	30	0.686	
8	“jobs@Vamos”	Generic	1	39	0.009	.370
8			0	32	0.007	
9	“vamos Geheimtipps”	Product	1	135	0.031	.083
9			0	110	0.025	

p values are from χ^2 statistics comparing clicks and non-clicks by condition for n = 4,307 (condition 1), n = 4,370 (condition 0)

Again, it can be clearly seen that labelling the stimulus as “sustainable” does receive the least number of clicks (except the generic, not product related stimuli). In comparison to a neutral (sports orientated) stimulus at the same position of the teaser section, sustainability receives (significantly) less clicks. The p-value between these two stimuli is the lowest of all comparisons. This, however, was to be expected, because in all other cases the stimuli in conditions 1 and 0 were identical, only in case 6a/b, different stimuli were used. Same applies for the Bayes factor in favour of the null hypothesis (BF_{01}), which is smallest, but still informative for teasers 6, while for all other stimuli a stron support for the null hypotheses can be seen.

4 Discussion

By and large, we found that displaying a panel promoting a “sustainable holiday” receives the least of all measured click rates in the product category. If the panel is displayed in a changing header section, then the sustainable holiday panel receives only about one sixth of the attention to be expected in the sequence of changing panels.

When displayed in a static environment of nine panels (teaser section), the sustainable holiday offer receives the least number of clicks in the product category and also significantly less clicks compared to a concurring neutral advertisement.

As a conclusion the findings from previous research in this project were confirmed: Labelling a product as being sustainable has only very small positive effects on perception and awareness. This finding seems to be valid not only for “official” labels in experimental environments, but also for promotional stimuli in a real-world environment.

Further research is still to show whether alternative formats, specifically those combing sustainability with experiential promises, would yield better results in terms of awareness and, consequently, choice of the more sustainable alternative.

5 References

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